User - Manual
Headend Controller *HCB 100 “blue” (9650.05)*

Changes due to technical progress possible!

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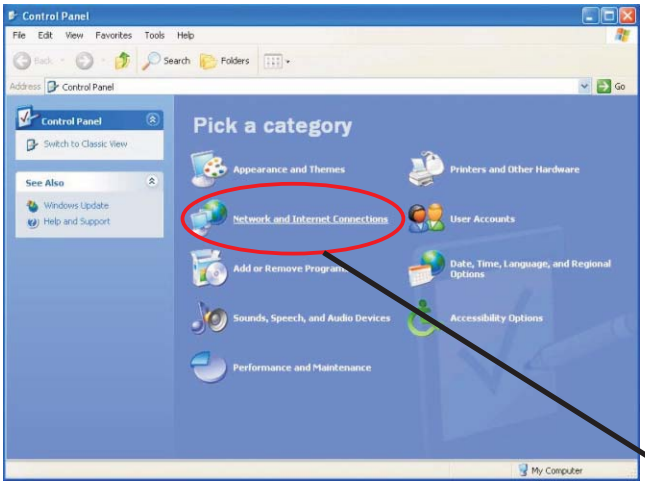
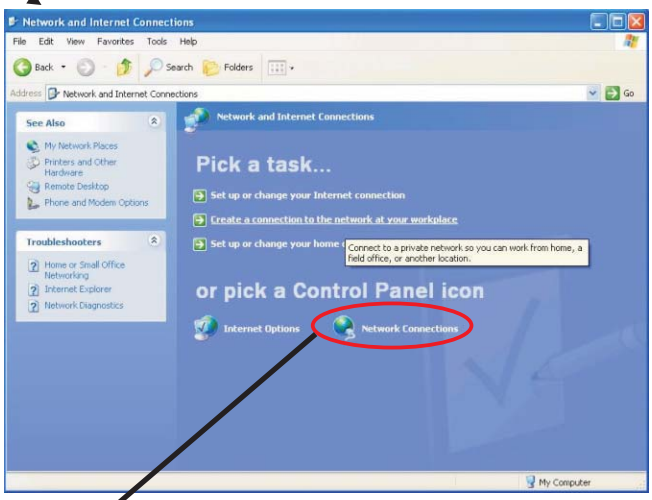
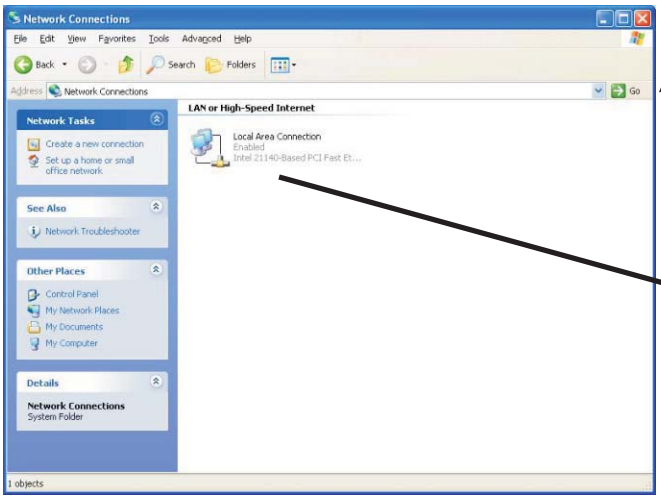
1. Set up of the network connection

1.1 WINDOWS XP

- Entering via “Start” button of your desktop and then call up “Control Panel”




Network and Internet Connections
Pick a task...
Set up or change your Internet connection
Create a connection to the network at your workplace
or pick a Control Panel icon
Internet Options
Network Connections



Confirm LAN - connection
with douple click
(continue at page 4)

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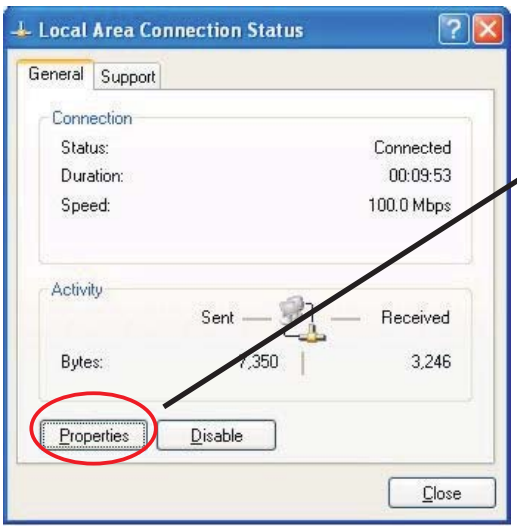
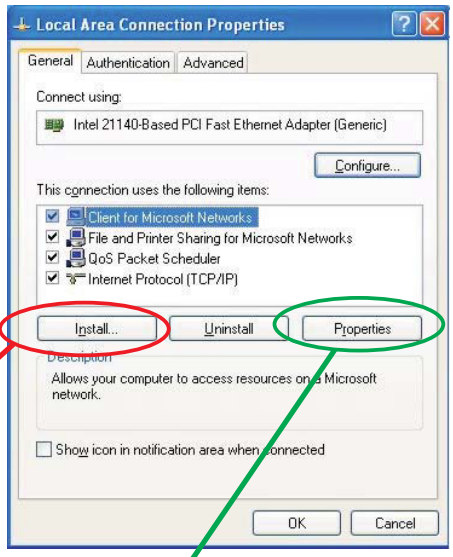
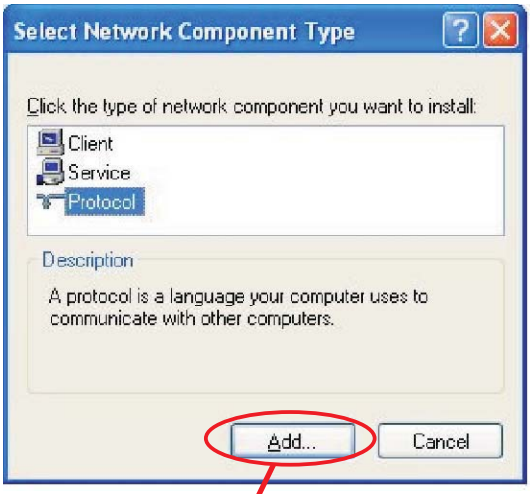
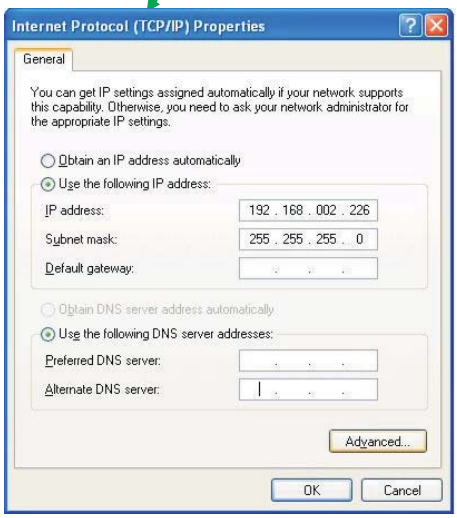


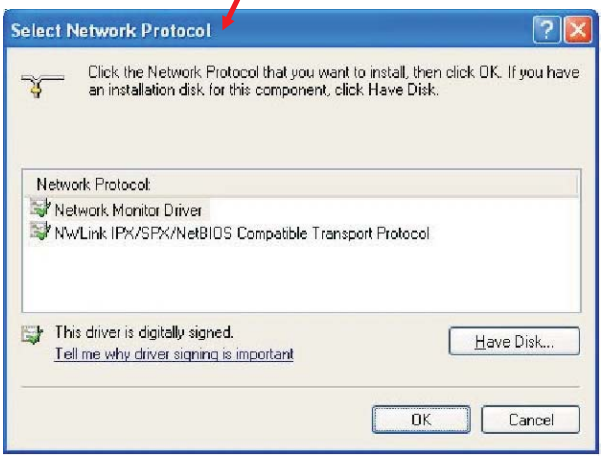
TCP/IP Protocol not installed



TCP/IP Protocol installed




Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 002 . 226
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel


Select Network Protocol
Click the Network Protocol that you want to install, then click OK. If you have an installation disk for this component, click Have Disk.
Network Protocol:
Network Monitor Driver
NWLink IPX/SPX/NetBIOS Compatible Transport Protocol
This driver is digitally signed.
Tell me why driver signing is important
Have Disk...
OK
Cancel

Select Protocol (TCP/IP) and then press OK

Select “Use the following IP address”!!!

NOTICE

- Enter a valid IP - Address and Subnet mask.
- The IP - Address of the PC/Laptop has to be different (Least Significant Bit) of the IP - Address of the HCB 100.
- The Subnet mask can be entered as shown in the above example.

NO entries for “Gateway”, “DNS” ... are necessary.

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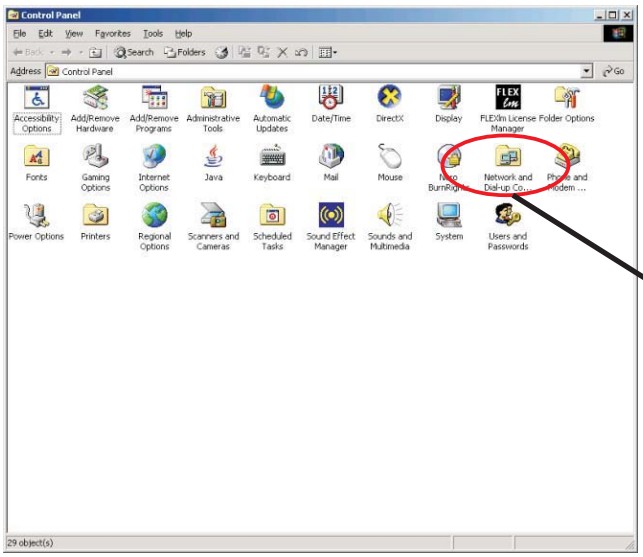
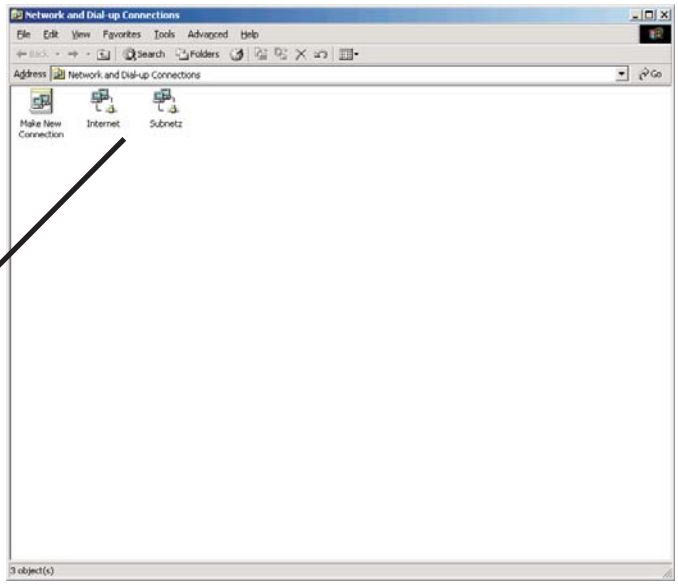
1.2 WINDOWS 2000

- Entering via “Start” button of your desktop and then call up “Control Panel”





Confirm LAN - connection
with douple click
(continue at page 6)

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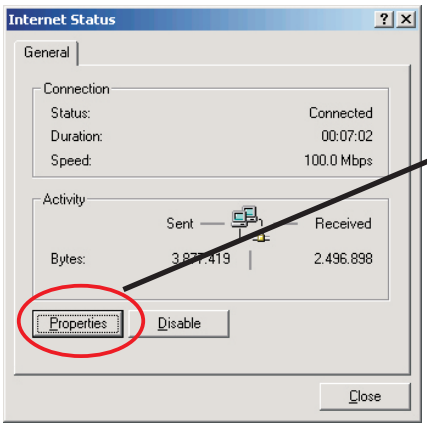
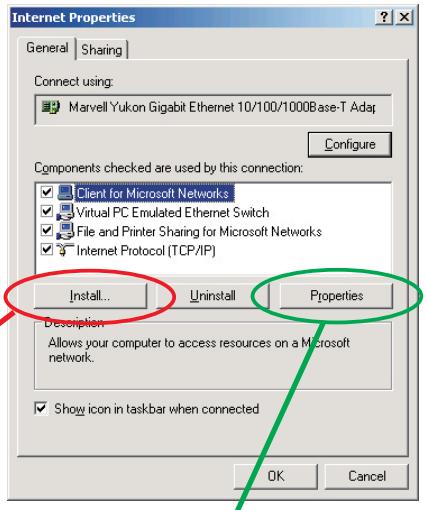
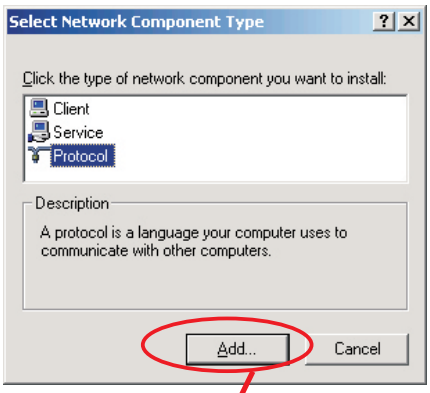
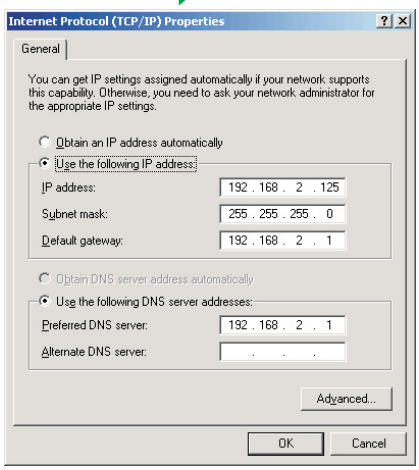


TCP/IP Protocol NOT installed



TCP/IP Protocol installed



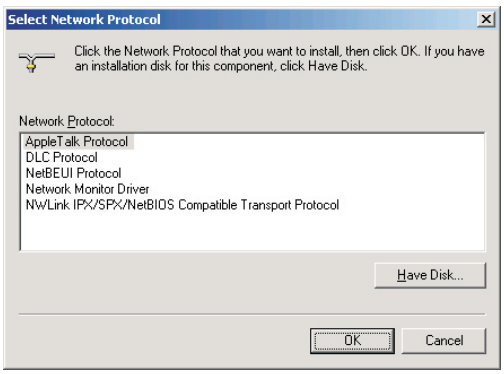

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 2 . 125
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 2 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 2 . 1
Alternate DNS server:
Advanced...
OK
Cancel

Select “Use the following IP address”!!!

NOTICE

- Enter a valid IP - Address and Subnet mask.
- The IP - Address of the PC/Laptop has to be different (Least Significant Bit) of the IP - Address of the HCB 100.
- The Subnet mask can be entered as shown in the above example.

NO entries for “Gateway”, “DNS” ...necessary.


Select Network Protocol
Click the Network Protocol that you want to install, then click OK. If you have an installation disk for this component, click Have Disk.
Network Protocol:
AppleTalk Protocol
DLC Protocol
NetBEUI Protocol
Network Monitor Driver
NWLink IPX/SPX/NetBIOS Compatible Transport Protocol
Have Disk...
OK
Cancel

Select Protocol (TCP/IP) and then press OK

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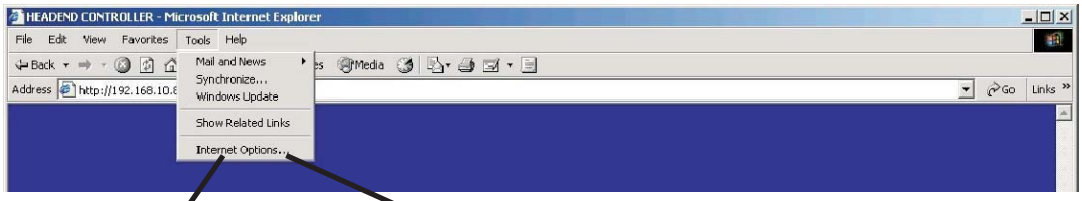
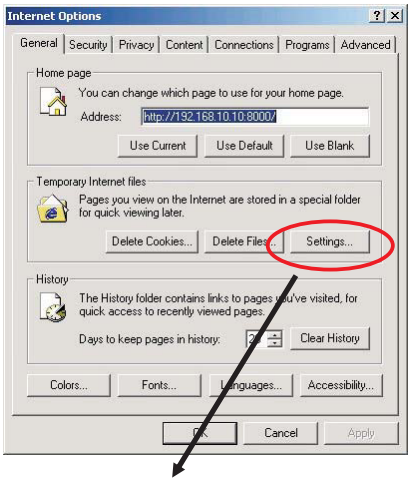
2. Set up of the Webbrowser

2.1 Microsoft Internet Explorer

- Open the Webbrowser (MS Internet Explorer), select “Tools” and then “Internet Options ...”



Press “General” and “Settings”

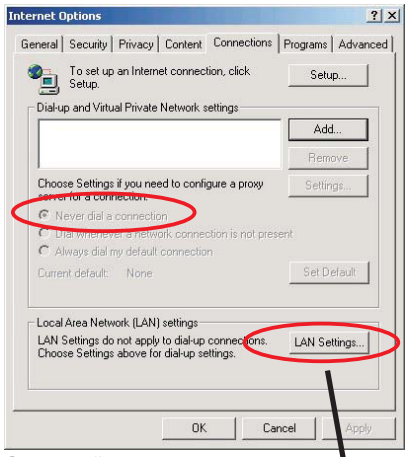

Internet Options
General Security Privacy Content Connections Programs Advanced
Home page
You can change which page to use for your home page.
Address: http://192.168.10.10:8000/
Use Current Use Default Use Blank
Temporary Internet files
Pages you view on the Internet are stored in a special folder for quick viewing later.
Delete Cookies... Delete Files... Settings...
History
The History folder contains links to pages you've visited, for quick access to recently viewed pages.
Days to keep pages in history: Clear History
Colors... Fonts... Languages... Accessibility...
OK Cancel Apply

Settings
Check for newer versions of stored pages:
Every visit to the page
Every time you start Internet Explorer
Automatically
Never
Temporary Internet files folder
Current location: C:\Documents and Settings\kirchner\Local Settings\Temporary Internet Files\
Amount of disk space to use:
MB
Move Folder... View Files... View Objects...
OK Cancel

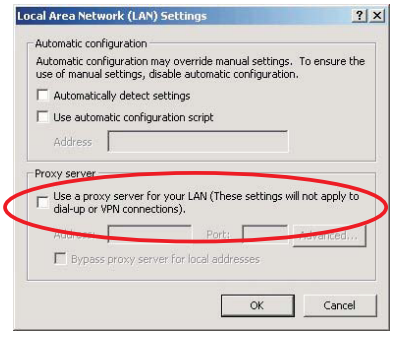
Select **“Every visit to the page” !!!**

Notice
To avoid display errors please change the adjustments for the storing of temporary Internet files.

Press “Connections”


Internet Options
General Security Privacy Content Connections Programs Advanced
To set up an Internet connection, click Setup.
Setup...
Dial-up and Virtual Private Network settings
Add...
Remove
Choose Settings if you need to configure a proxy server for a connection.
Settings...
Never dial a connection
Dial whenever a network connection is not present
Always dial my default connection
Current default: None
Set Default
Local Area Network (LAN) settings
LAN Settings do not apply to dial-up connections.
Choose Settings above for dial-up settings.
LAN Settings...
OK Cancel Apply

Select “Never dial a connection”


Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address: Port: Advanced...
Bypass proxy server for local addresses
OK Cancel

Please disconnect the access to a Proxyserver for direct connection of the HCB 100 with PC/Laptop.

Please restart the PC/Laptop after all settings/adjustments are finished.
Then the connection to the Headend Controller HCB 100 can be called up via the Webbrowser.

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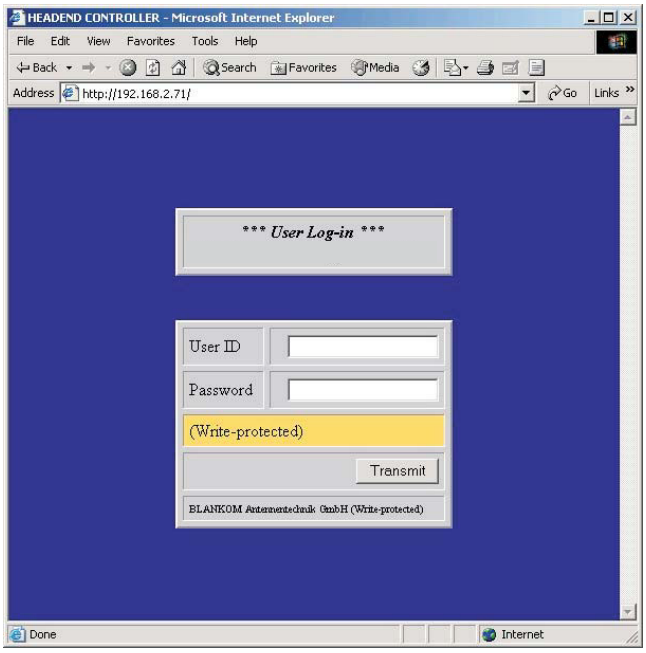
3. Working with the Headend Controller HCB 100

3.1 Access to the Headend Controller

HEADEND CONTROLLER - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://192.168.2.71/
Go Links

Enter the IP - Number into the address - line.
(IP - Number ex works BLANKOM is always: 192.168.2.80)



The Login - window of the HCB 100 will be displayed if all adjustments/settings are correct.
You now can save/secure the operation via a password.
Selecting the configuration “Automatic Login” allows Login without password entry (see 3.5.2).

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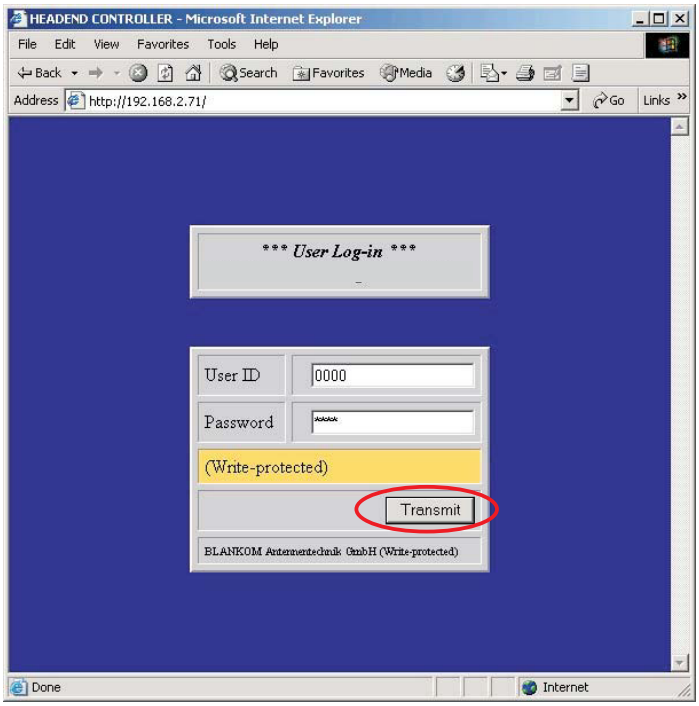
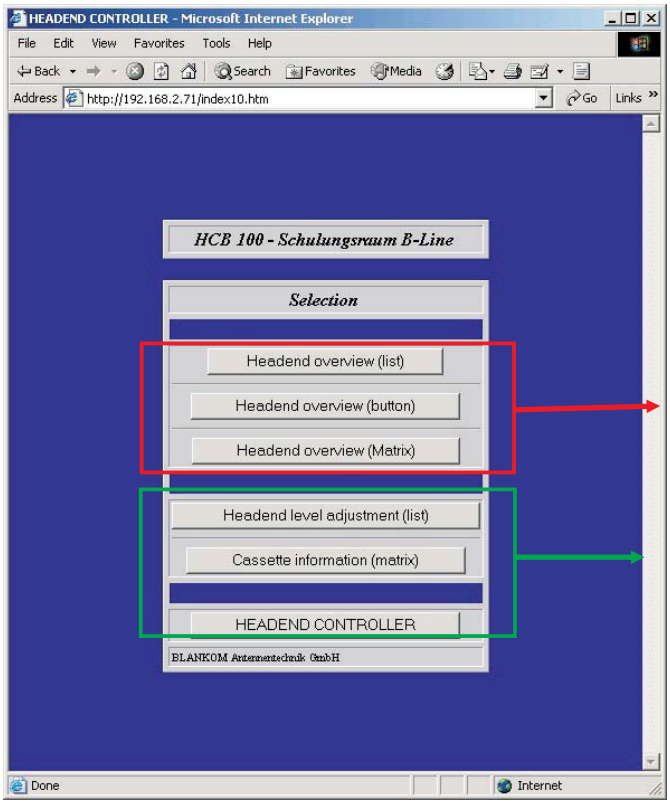


Enter USER ID and Password

USER ID and Password ex works BLANKOM:
User ID.....0000
Password....0000

Writing protection has been deleted.
You will be automatically forwarded to the
"Selcetion - Menu".



Selection of desired Headend overview table
(see 3.2)

Selection of Adjustments and Configurations
(see 3.3)

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3.2 Selection of the desired Headend overview table

Headend overview (LIST)

Headend overview (list)
HCB 100

Address	Name	Article no.	Output	
01 / 01	Super RTL	9609.01	60 (783,25 MHz)	Edit
01 / 02	ZDF	9609.01	62 (799,25 MHz)	Edit
01 / 03	SAT.1	9609.01	64 (815,25 MHz)	Edit
01 / 04	T81 / T65	9619.01	S29 (370,00 MHz) / S30 (378,00 MHz)	Edit
01 / 05	T69 / T67	9619.01	S31 (386,00 MHz) / S32 (394,00 MHz)	Edit
01 / 06	T83 / ARD T71	9619.01	S33 (402,00 MHz) / S34 (410,00 MHz)	Edit
01 / 07	ARD T85 / ZDF T77	9619.01	S35 (418,00 MHz) / S36 (426,00 MHz)	Edit
02 / 01	STC 191 / STC 191	9616.01	42 (639,25 MHz) / 43 (647,25 MHz)	Edit
02 / 02	Test 1 / Test 2	9617.01	40 (623,25 MHz) / 41 (631,25 MHz)	Edit
02 / 03	A/V 1 / KIKA 3/8	9627.01	44 (655,25 MHz) / 45 (663,25 MHz)	Edit
02 / 04	Ausgang	9626.01		Edit
03 / 01	VMB 1x1	9222.03	E07 (189,25 MHz)	Edit
03 / 02	P2 CODEC 4:3 1k	9862.01	A/V	Edit
03 / 03	RTL 2	9200.01	37 (599,25 MHz)	Edit
03 / 04	Demodulator	9254.01		Edit
03 / 05	Bahn TV / Beta Dig	9619.02	S23 (322,00 MHz) / S24 (330,00 MHz)	Edit
03 / 06	ORF 1 /ORF 2	9619.05	S25 (338,00 MHz) / S26 (346,00 MHz)	Edit
03 / 07	ZDF /ARD Rad	9619.05	S27 (354,00 MHz) / S28 (362,00 MHz)	Edit
07 / 01	Radio Bremen TV	9832.02	E08 (196,25 MHz)	Edit
07 / 02	Modulator 13	9222.01	E07 (189,25 MHz)	Edit
07 / 03	3sat	9802.03	A/V	Edit
07 / 03	3sat	9802.03	A/V	Edit
07 / 04	SWR Fernsehen BW	9810.04	21 (471,25 MHz)	Edit
07 / 05	Phoenix	9826.04	E04 (062,25 MHz)	Edit
07 / 06	Testsig. / DVBT	9602.01	S21 (306,00 MHz) / S22 (314,00 MHz)	Edit
07 / 07	P1 CODVTS 1k FS	9601.01	S05 (133,25 MHz)	Edit

Head station favorable selections | check out | choice

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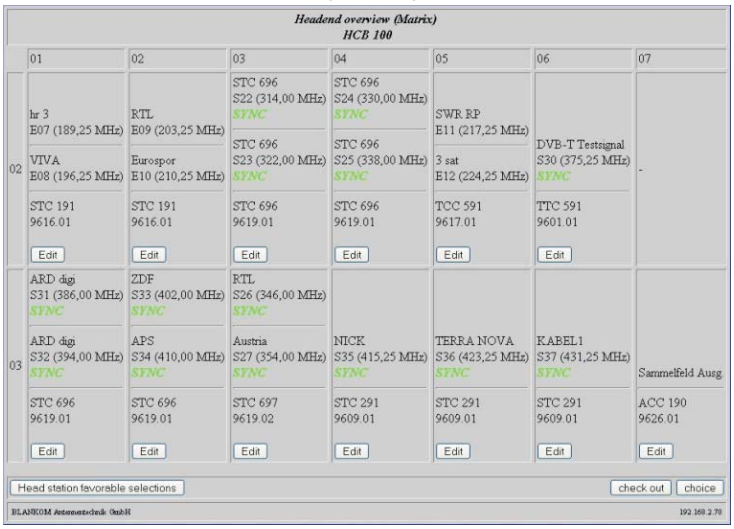
The Headend overview (List) displays all the modules of the entire Headend system as a List.

Selecting the button “Edit” gets you to the operation overview of the respective module.

Headend overview table (Matrix)



Headend overview (Matrix)
HCB 100

	01	02	03	04	05	06	07
02	hr 3 E07 (189,25 MHz) VIVA E08 (196,25 MHz) STC 191 9616.01 Edit	RTL E09 (203,25 MHz) Eurospor E10 (210,25 MHz) STC 191 9616.01 Edit	STC 696 S22 (314,00 MHz) SYNC STC 696 S23 (322,00 MHz) SYNC STC 696 9619.01 Edit	STC 696 S24 (330,00 MHz) SYNC STC 696 S25 (338,00 MHz) SYNC STC 696 9619.01 Edit	SWR RP E11 (217,25 MHz) 3 sat E12 (224,25 MHz) TCC 591 9617.01 Edit	DVB-T Testsignal S30 (375,25 MHz) SYNC TTC 591 9601.01 Edit	-
03	ARD digi S31 (386,00 MHz) SYNC ARD digi S32 (394,00 MHz) SYNC STC 696 9619.01 Edit	ZDF S33 (402,00 MHz) SYNC APS S34 (410,00 MHz) SYNC STC 696 9619.01 Edit	RTL S26 (346,00 MHz) SYNC Austria S27 (354,00 MHz) SYNC STC 697 9619.02 Edit	NICK S35 (415,25 MHz) SYNC STC 291 9609.01 Edit	TERRA NOVA S36 (423,25 MHz) SYNC STC 291 9609.01 Edit	KABEL1 S37 (431,25 MHz) SYNC STC 291 9609.01 Edit	Sammelfeld Ausg. ACC 190 9626.01 Edit

Head station favorable selections | check out | choice

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The Headend overview (Matrix) displays all the modules of the entire Headend system as a Matrix.
- The first line (horizontaly / here 02 and 03) displays the line-addresses of the Power supply (BEB 100).
- The fist line (verticaly / here 01 - 07) displays the addresses of the individual modules, as well as additional information like the module type, the synchronisation (SYNC) for digital converters, channel name(s), respective output band and -frequencies...

Selecting the button “Edit” gets you to the operation overview of the respective module.

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Headend overview table (Button)

Headend overview (button)
HCB 100
01 / 01 Super RTL Edit Copy On / Off Output attenuat. Status
01 / 02 ZDF Edit Copy On / Off Output attenuat. Status
01 / 03 SAT.1 Edit Copy On / Off Output attenuat. Status
01 / 04 T81 / T65 Edit Copy On / Off Output attenuat. Status
01 / 05 T69 / T67 Edit Copy On / Off Output attenuat. Status
01 / 06 T83 / ARD T71 Edit Copy On / Off Output attenuat. Status
01 / 07 ARD T85 / ZDF T77 Edit Copy On / Off Output attenuat. Status
02 / 01 STC 191 / STC 191 Edit Copy On / Off Output attenuat.
02 / 02 Test 1 / Test 2 Edit Copy On / Off Output attenuat.
02 / 03 A/V 1 / KIKA 3/8 Edit Copy On / Off Output attenuat.
02 / 04 Ausgang Edit Copy On / Off Output attenuat.
03 / 01 VMB 1x1 Edit Copy On / Off Output attenuat. Status
03 / 03 RTL 2 Edit Copy On / Off Output attenuat. Status
03 / 04 Demodulator Edit Copy On / Off
03 / 05 Bahn TV / Beta Dig Edit Copy On / Off Output attenuat. Status
03 / 06 ORF 1 /ORF 2 Edit Copy Status
03 / 07 ZDF /ARD Rad Edit Copy Status
07 / 01 Radio Bremen TV Edit Copy On / Off Output attenuat. Status
07 / 02 Modulator 13 Edit Copy On / Off Output attenuat. Status
07 / 03 3sat Edit Copy Status
Head station favorable selections
check out
choice
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192.168.2.80

The Headend overview table (Button) displays all the modules of the entire Headend system with various configurtion buttons.
Following functions can be selected:

“Edit”	The user interface of the respective module is open and it is possible to make adjustments.
“Copy (data page)”	The “Copy (data page)” of the desired module will be processed. It displays all adjusted parameters and can be saved/stored. (Store/save within Internet Explorer: “Data/File” → “Save target at/as”) The menu “All” enables the processing of a copy/data page for the entire Headend system. **NOTICE:** The “Copies/data pages” will be stored/saved with a new forma and are NOT downwards compatible. These can not be used with the HCB 100 module types (9650.01 / 9650.02).
“ON / OFF”	A menu with “ON”, “OFF” or “RESET” will be displayed - Selecting “ON” or “OFF” allows you to change the operation status of the desired module - Selecting “RESET” will disconnect/switch off the desired module for 8 seconds.
“Ouput attenuation”	Selecting “Output attenuation” enables you to change the output level of the desired module.
“Status”	The operating status of the desired module will be called up and displayed.

- Selecting the button “Headend read out” effects a scan of the entire Headend system including all connected modules.
- Selecting the button “check-out” occurs an automatic log out of the headend system
- Selecting the button “Selection” gets you to the selection menu of the headend system.

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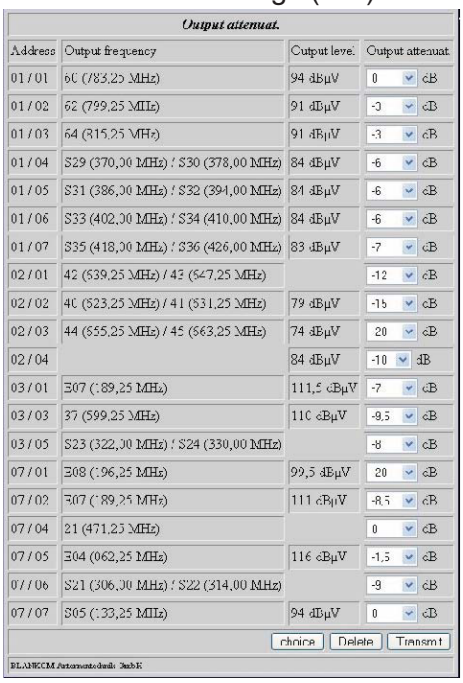
...Setting Signals

3.3 Selcection of Adjustments and Configurations

Headend level settings (List)



Output attenuat.

Address	Output frequency	Output level	Output attenuat.
01 / 01	60 (783,25 MHz)	94 dBµV	0 dB
01 / 02	62 (799,25 MHz)	91 dBµV	-3 dB
01 / 03	64 (815,25 MHz)	91 dBµV	-3 dB
01 / 04	S29 (370,00 MHz) / S30 (378,00 MHz)	84 dBµV	-6 dB
01 / 05	S31 (386,00 MHz) / S32 (394,00 MHz)	84 dBµV	-6 dB
01 / 06	S33 (402,00 MHz) / S34 (410,00 MHz)	84 dBµV	-6 dB
01 / 07	S35 (418,00 MHz) / S36 (426,00 MHz)	83 dBµV	-7 dB
02 / 01	42 (639,25 MHz) / 43 (647,25 MHz)		-12 dB
02 / 02	40 (623,25 MHz) / 41 (631,25 MHz)	79 dBµV	-15 dB
02 / 03	44 (655,25 MHz) / 45 (663,25 MHz)	74 dBµV	20 dB
02 / 04		84 dBµV	-10 dB
03 / 01	E07 (189,25 MHz)	111,5 dBµV	-7 dB
03 / 03	37 (599,25 MHz)	110 dBµV	-9,5 dB
03 / 05	S23 (322,00 MHz) / S24 (330,00 MHz)		-8 dB
07 / 01	E08 (196,25 MHz)	99,5 dBµV	20 dB
07 / 02	E07 (189,25 MHz)	111 dBµV	-8,5 dB
07 / 04	21 (471,25 MHz)		0 dB
07 / 05	E04 (062,25 MHz)	116 dBµV	-1,5 dB
07 / 06	S21 (306,00 MHz) / S22 (314,00 MHz)		-9 dB
07 / 07	S05 (133,25 MHz)	94 dBµV	0 dB

choice | Delete | Transmit

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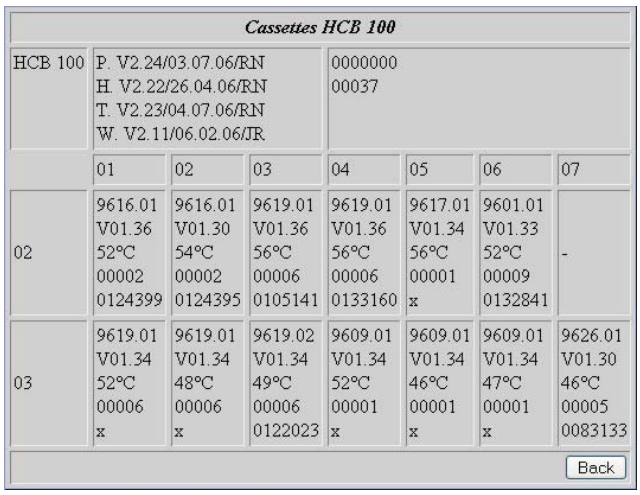
For adjustment/setting of signal-level for each module of the headend enter “Transmit” to confirm desired/selected level.

Module information (Matrix)



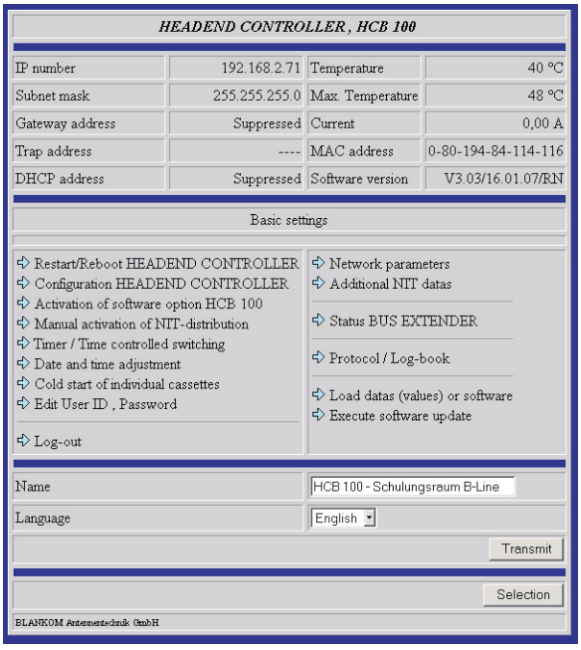
Cassettes HCB 100

HCB 100	P. V2.24/03.07.06/RN H. V2.22/26.04.06/RN T. V2.23/04.07.06/RN W. V2.11/06.02.06/JR			0000000 00037			
	01	02	03	04	05	06	07
02	9616.01 V01.36 52°C 00002 0124399	9616.01 V01.30 54°C 00002 0124395	9619.01 V01.36 56°C 00006 0105141	9619.01 V01.36 56°C 00006 0133160	9617.01 V01.34 56°C 00001 x	9601.01 V01.33 52°C 00009 0132841	-
03	9619.01 V01.34 52°C 00006 x	9619.01 V01.34 48°C 00006 x	9619.02 V01.34 49°C 00006 0122023	9609.01 V01.34 52°C 00001 x	9609.01 V01.34 46°C 00001 x	9609.01 V01.34 47°C 00001 x	9626.01 V01.30 46°C 00005 0083133

Back

The Matrix overview displays the part n°, current software and the serial n° of the respective module.

Headend Controller



HEADEND CONTROLLER , HCB 100

IP number	192.168.2.71	Temperature	40 °C
Subnet mask	255.255.255.0	Max. Temperature	48 °C
Gateway address	Suppressed	Current	0,00 A
Trap address	----	MAC address	0-80-194-84-114-116
DHCP address	Suppressed	Software version	V3.03/16.01.07/RN

Basic settings

- Restart/Reboot HEADEND CONTROLLER
- Configuration HEADEND CONTROLLER
- Activation of software option HCB 100
- Manual activation of NIT-distribution
- Timer / Time controlled switching
- Date and time adjustment
- Cold start of individual cassettes
- Edit User ID , Password
- Log-out
- Network parameters
- Additional NIT datas
- Status BUS EXTENDER
- Protocol / Log-book
- Load datas (values) or software
- Execute software update

Name: HCB 100 - Schulungsraum B-Line

Language: English

Transmit

Selection

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- Displays all setting/adjustment opportunities of the entire headend or for individual modules.
- Displays the IP - number, the current software of the Headend Controller HCB 100. Setting/adjustment of the IP - informations in part 3.4.
- Basic settings/adjustments in part 3.5
- The button “Name” allows to print a desired name for the headend.
- The button “Language” allows the selection between German & English.

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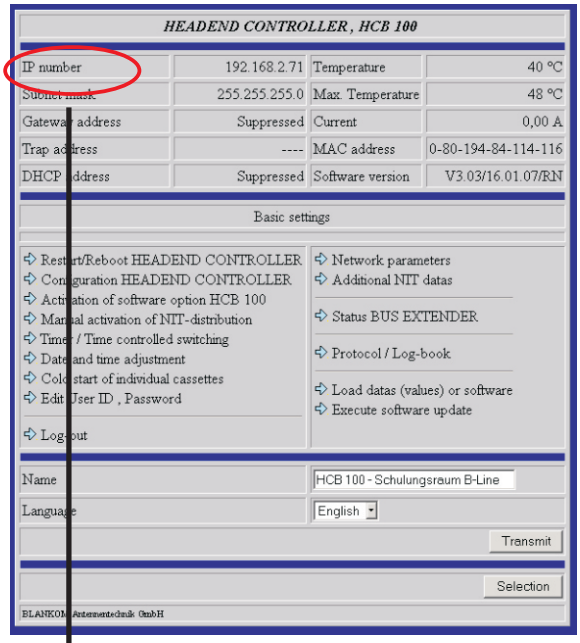
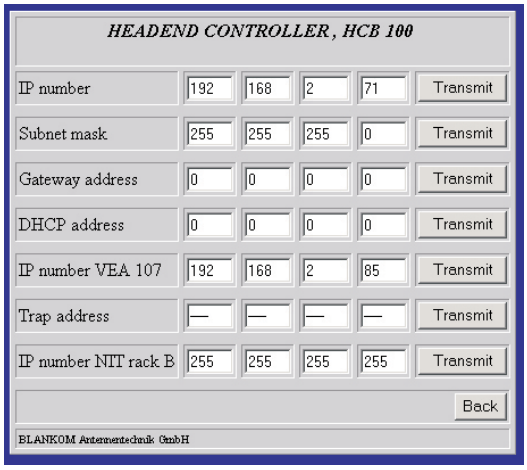
3.4 IP - Configuration of the Headend Controller



Access the sub-menu by double-click to “IP-Number”.



Additional functions for the IP-configuration of the Headend Controller will be activated.

“IP number”
- Enter current IP - address of the HCB 100

“Subnet mask”
- Enter Subnet mask

“Gateway address”
- Enter Gateway Address of the available network

“DHCP address”
- Enter IP - Address for automatic IP - allocation for Laptop/PC
  (Activation “Obtain an IP address automatically” at the PC)

“IP number VEA 107”
- Enter IP - Address of connected Encoder/Multiplexer VEA 107

“TRAP address”
- Enter IP - Address for forwarding TRAP - Messages (Case of error)

“IP number NIT rack B”
- Enter IP - Address for exchange of NIT - Datas of 2 HCB 100

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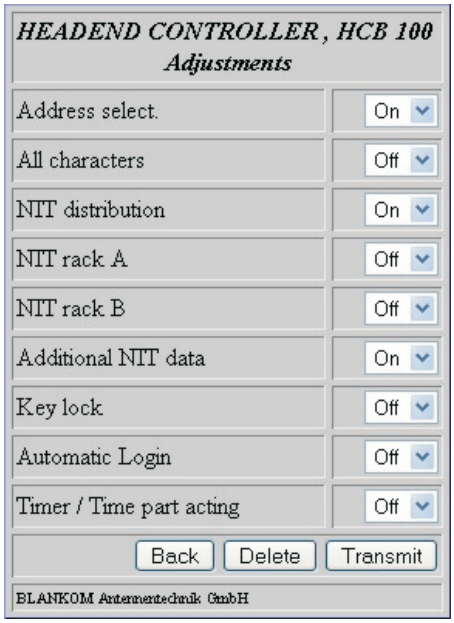
3.5 Basic settings of the Headend Controller

3.5.1 Reset of the HEADEND CONTROLLER

Enter “RESET” effects a restart of the HEADEND CONTROLLER,
- A software reset is done.
- Afterwards a headend read out is done.

3.5.2 Configuration HEADEND CONTROLLER



Sub-Menu for activation of additional functions
for the Headend controller HCB 100.

“Address select.” (manual operation)
ON ... Manual selection is done via Up / Down key-pads of the HCB 100
OFF ... Selection is done via direct entry of line- and device addresses

“All characters” (manal operation)
ON ... Text input for all characters possible
OFF ... Text input only for 0- 9 and A - Z possible

“NIT - Distribution”
ON ... NIT - datas will be exchanged dynamically
OFF ... NIT - datas will be switched OFF

“NIT - Rack A”
“NIT - Rack B”
Notice:
Special adjustments have to be done when interchanging NIT - datas of two HCB 100 or one HCB 100 with additional NIT - datas.

Example:*

	HCB 100 with 32 x STB 606**	HCB 100 Rack A with 16 x STB 606**	HCB 100 Rack B with 16 x STB 606**
NIT - Rack A	OFF	EIN	OFF
NIT - Rack B	OFF	OFF	ON

“Additional NIT data”
ON ... input of 16 external transponder information possible
OFF ... NO additional inputs possible

“Key lock”
ON ... manual settings/adjustments directly at HCB 100 deactivated
OFF ... manual settings/adjustments directly at HCB 100 activated

“Automatic Login”
ON ... writing protection is deactivated. Access to the Menu without password entry possible.
OFF ... entry of User ID & Password necessary for access to the menu

“Timer / Time part acting”
ON ... time controlled changes/switching is possible/activated
OFF ... time controlled changes/switching deactivated

* Max 32 NIT - Datas of the B-LINE - modules can be processed. (16 x Rack A + 16 x Rack B) or (16 x B-LINE + 16 x external)
**Valid for following B-LINE modules: STB 606, STB 607, STB 006, AMB 206, CTB 206

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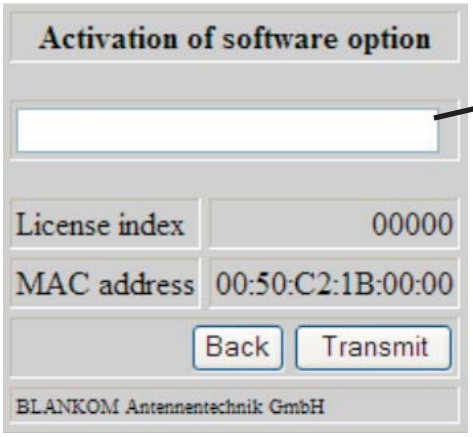
3.5.3 Activation of software option HCB 100

The Headend Controller HCB 100 (9650.05) enables the implementation of the entire headend system into a Network-Management-System (NMS). To do so you have to activate the SNMP agent at the HCB 100.



Enter the activation code for the activation of SNMP agent. Press button “Transmit” to confirm the code and to activate the software option.

3.5.4 Manual NIT-Distribution

Press “Start Manual NIT - Distribution” for an one time NIT - Distribution.
Please, see more detailed information for NIT-Distribution at our website, www.blankom.de.

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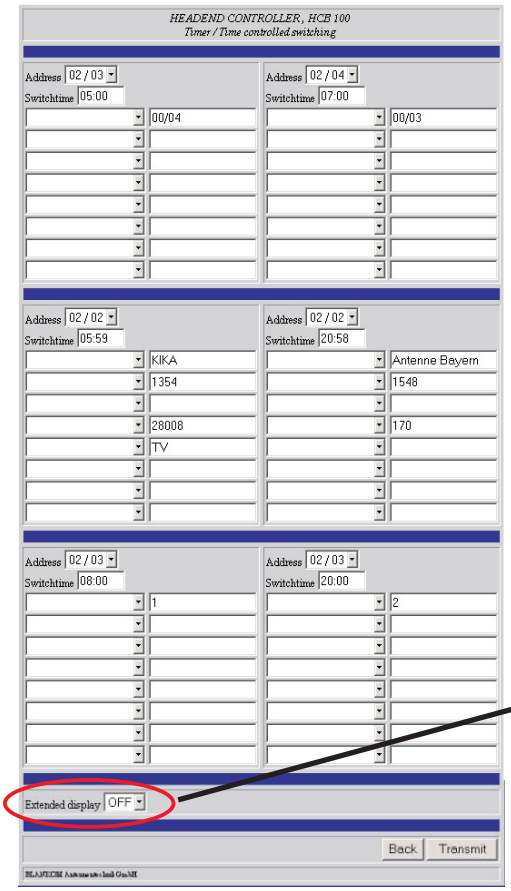
3.5.5 Timer / Time controlled switching



Timer / Time controlled switching allows a time controlled switchover of programs.

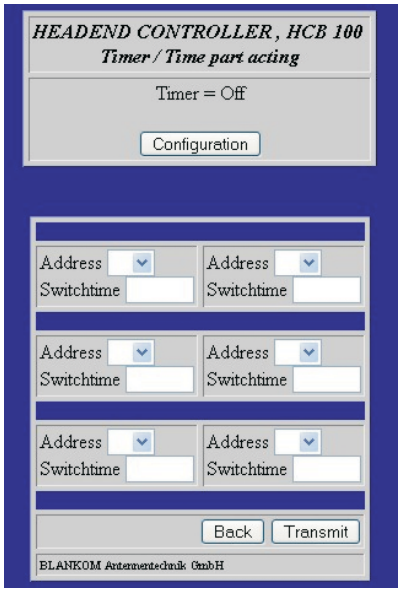
NOTICE
Time-synchronization of the HCB100 is done with a reference time (see 3.5.5).

NOTICE

- Input of parameters/values into the timer has to be done in the sequence of the operator interface of the respective module (see page 17 for the sequences of the module)

- Upper and lower cases have as well as the input of the dimensions (e.G. MHz) have to be considered

"Extended display"
ON ... 2 additional columns for entry of further parameters parameters will be faded in.
OFF ... additional functions are fade out



Timer / Time controlled switching is OFF
- NO input windows are enabled
- Press "Configuration" to go to the menu "Configuration for Headend Controller"
- To enable the configuration table, press Timer/Time controlled switching to "ON".

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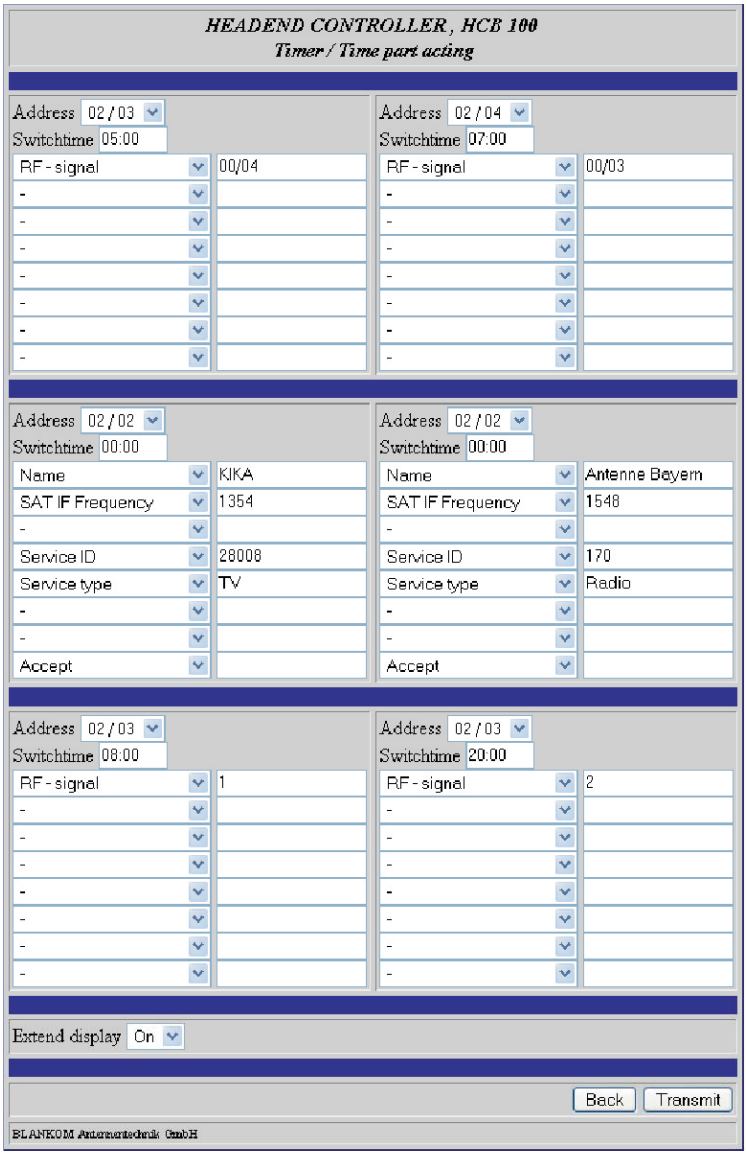
Examples HCB 100 Timer

This menu is for the configuration of time controlled switching and will only be displayed when the Timer-Mode is activated (ON).



Example 1 (Special case)
Switching of 2 modules via
RF - disconnection
(switching time approx. 1-2 sec.)
5:00 hrs.
Address 02/03 will be switched off
Addresse 02/04 will be switched on
7:00 hrs
Address 00/04 will be switched off
Address 00/03 will be switched on

Example 2
Program switchover for
MPEG - modules
KIKA TV - Program switches to
ANTENNE Bayern Radio - Program

(Switch time approx. 10 sec.)

Example ***3 (Special case)***
Program switchover for analog signals
C-LINE TWIN-Module
8:00 hrs. activation for channel 1
20:00 hrs. activation for channel 2

The desired changes have been entered as displayed at the html - operation surface.
e. g. Operating status: ON or OFF

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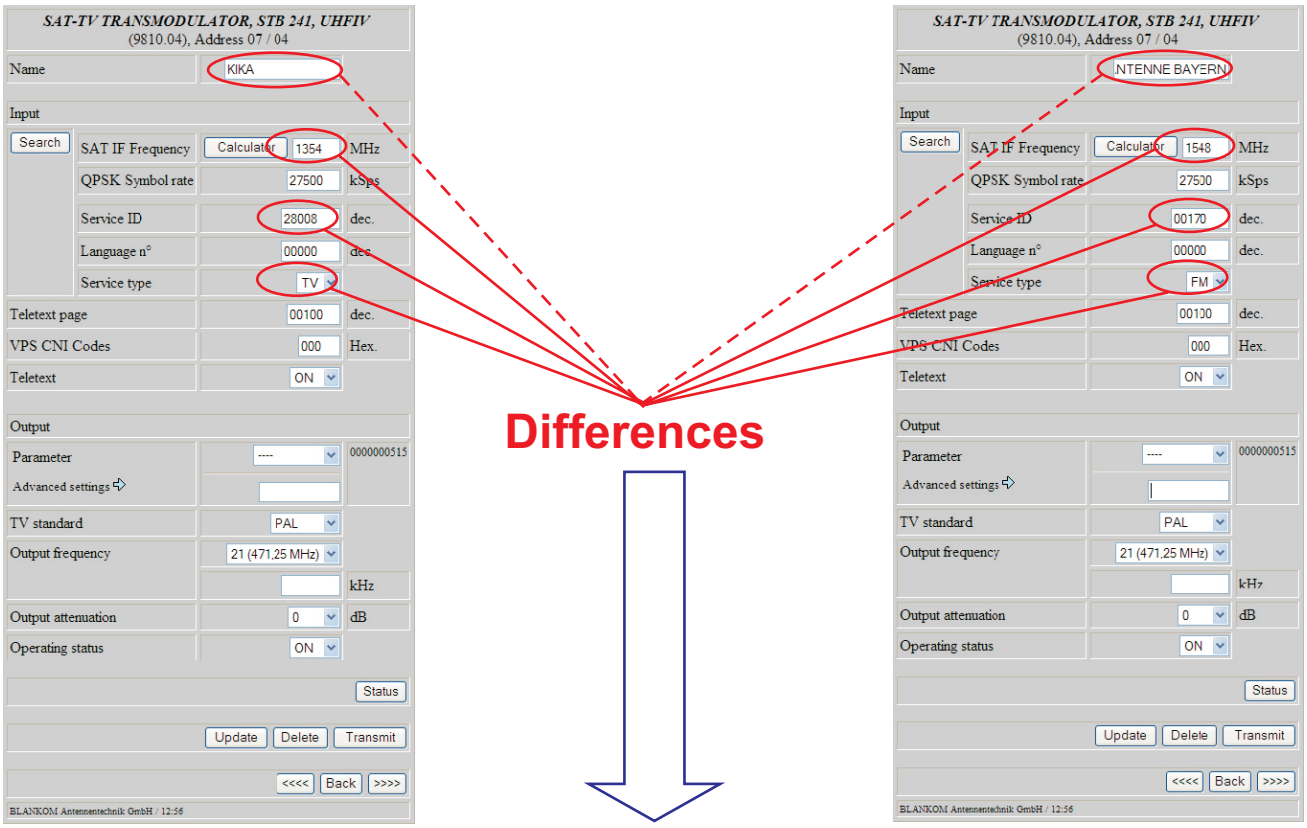
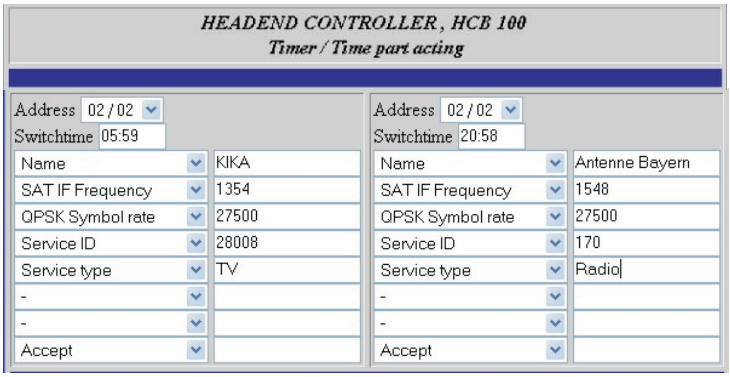
Program switchover (Example for KIKA-TV / Antenne Bayern-Radio)



Special configuration for KIKA:
Name = KIKA
SAT-IF = 1354
ServiceID = 28008
Service Type = TV

Special configuration for Antenne Bayern:
Name= Antenne Bayern
SAT-IF = 1548
ServiceID = 170
Service Type = Radio

NOTICE!
Please consider that only the values which are desired to be changed for switchover have to entered within the configuration window.
Also the desired switch times for the switchover of the desired programs have to be selected.



NOTICE!
If programs (e.G. KIKA) are to be switchedover by fixed broadcasting-times, then do NOT program the switchover time!!!

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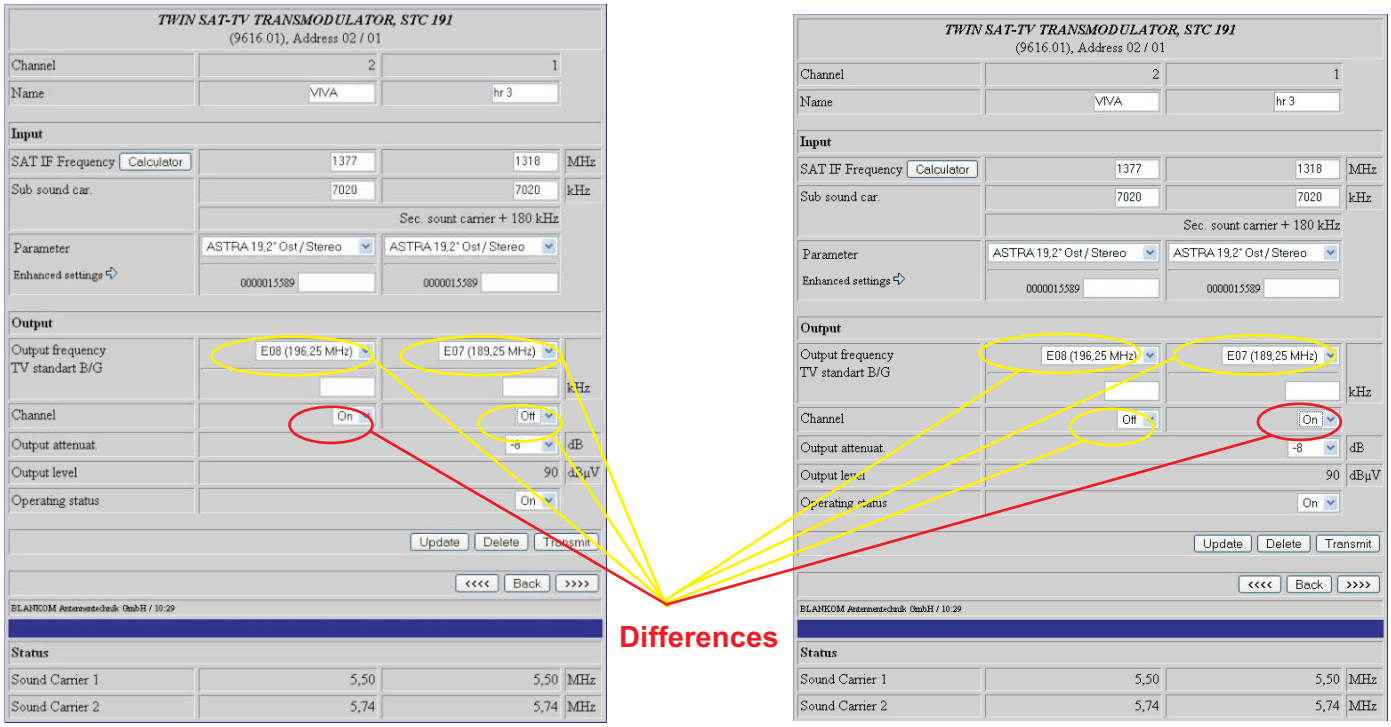
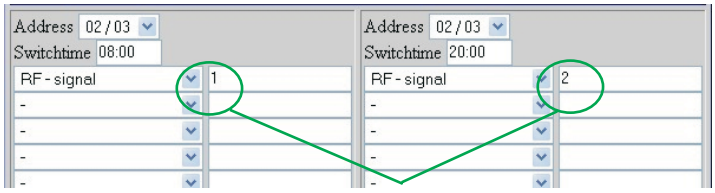
Program selection for the C-LINE headend system (special case via RF - Signal)


TWIN SAT-TV TRANSMODULATOR, STC 191
(9616.01), Address 02 / 01
Channel 2 1
Name VIVA hr 3
Input
SAT IF Frequency Calculator 1377 1318 MHz
Sub sound car. 7020 7020 kHz
Sec. sount carrier + 180 kHz
Parameter ASTRA 19,2° Ost / Stereo ASTRA 19,2° Ost / Stereo
Enhanced settings 0000015589 0000015589
Output
Output frequency TV standart B/G E08 (196,25 MHz) E07 (189,25 MHz) kHz
Channel On Off
Output attenuat. -8 dB
Output level 90 dBµV
Operating status On
Update Delete Transmit
<<<< Back >>>>
Status
Sound Carrier 1 5,50 5,50 MHz
Sound Carrier 2 5,74 5,74 MHz
Differences
TWIN SAT-TV TRANSMODULATOR, STC 191
(9616.01), Address 02 / 01
Channel 2 1
Name VIVA hr 3
Input
SAT IF Frequency Calculator 1377 1318 MHz
Sub sound car. 7020 7020 kHz
Sec. sount carrier + 180 kHz
Parameter ASTRA 19,2° Ost / Stereo ASTRA 19,2° Ost / Stereo
Enhanced settings 0000015589 0000015589
Output
Output frequency TV standart B/G E08 (196,25 MHz) E07 (189,25 MHz) kHz
Channel Off On
Output attenuat. -8 dB
Output level 90 dBµV
Operating status On
Update Delete Transmit
<<<< Back >>>>
Status
Sound Carrier 1 5,50 5,50 MHz
Sound Carrier 2 5,74 5,74 MHz

Switching condition channel 2 “ON”:
Program = Sonnenklar TV
Output frequency = 503,25 MHz (K25)

Switching condition channel 1”ON”:
Program = HSE
Output frequency = 503,25 MHz (K25)

Example
- Currently channel 1 (HSE) is activ
- Output channel for timer controlled switchover is K25
- Sonnenklar-TV will be switched ON and HSE24 will be switched OFF at 20:00 hrs..



Activated channel

Only the active channel has to be selected for this configuration. No further entries necessary.

This time controlled switchover allows to change/switchover programs of different levels within one module without an additional RF - switch.

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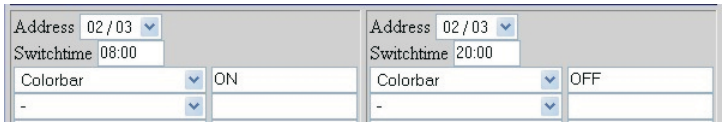
Further information for timer configuration

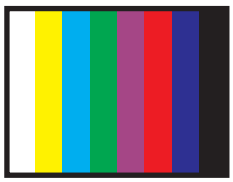
RF - Signal: This parameter is only available at the 1. selection box.
Not all modules support this configuration.
This can be done only if the respective module supports switching/selection of the RF-signal (see page 17).

Accept: This function is only available at the 8. selection box.
The adjustments of the input parameters will be overtaken without a reset (see tabel page 21).

Color bar: When color bar is ON then datas will be sent to the module and the color bar will be switched off.
The switchoff of the color bar can be done with manual programming but also via via PC/Laptop.
Level adjustments can be done via “Headend overview (Button)” by selecting the button “Output attenuation”.

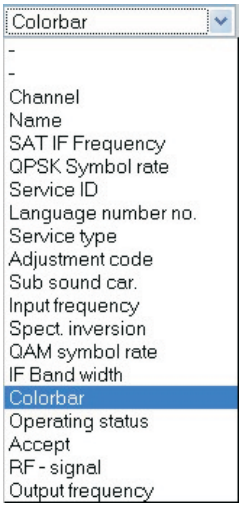
Following configurations have to be done.





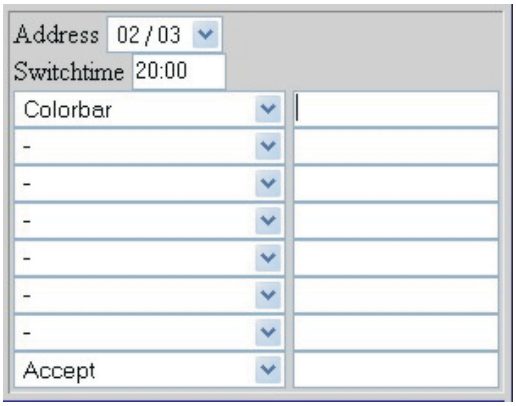
TV-picture with color bar ON

Parameter-List



1. Selection box

8. Selection box



Example for an selection box (Address, Switchtime, Parameter, Value)

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Possible parameters for timer controlled switchover

Parameter	**STB 1x1** 920x.xx	**SDB 209** 9802.0x	**STB 2x1** 981x.xx **STC 291** 9609.xx	**STB 607** 9880.01	**TTB 5x1** 982x.xx **TTC 591** 9601.xx	**UCB 1x6** 919x.01	**CCB 1x1** 923x.xx **TCB xx1** 92xx.xx	**CTB 1x1** 983x.xx	**VMB 1x1** 922x.xx	**ATB 1x1** 984x.xx	**ADB 109** 9861.01	**ADB 209** 9862.04
Channel (only C-LINE)												
Name	x	x	**x**	x	**x**	x	x	**x**	x	**x**	**x**	**x**
SAT-IF	x	x	**x**	x								
QPSK-Symbol rate		x	**x**	x								
Service ID		x	**x**		**x**			**x**		**x**	**x**	**x**
Language n°		x	**x**		**x**			**x**		**x**	**x**	**x**
Service type		x	**x**		**x**			**x**		**x**	**x**	
Adjustment code	x		x		x			x	x	x		
SAT-Sound frequency	x											
Input frequency					**x**		x	**x**				
Spectrum inversion					**x**							
QAM-Symbol rate								**x**				
IF-bandwidth								**x**				
Color bar		**x**	**x**		**x**			**x**		**x**	**x**	x
Opberating status	x		x	x	x	x	x	x	x	x	x	x
Accept			x		x			x		x	x	
RF signal	x		x		x	x	x	x	x	x		

Parameter	**STC 191** 9616.xx	**TCC 591** 9617.xx	**STC 697** 9619.02	**VMC 191** 9627.xx	**VMC 101** 9627.05	**STC 201** 9611.01
Channel (only C-LINE)	x	x	x		x	**x**
Name	x	x	x		x	**x**
SAT-IF	x		x			**x**
QPSK-Symbol rate			x			**x**
Service ID						**x**
Language n°						**x**
Service type						
Adjustment code	x					
SAT-Sound frequency	x					
Input frequency		x				
Spectrum inversion						
QAM-Symbol rate						
IF-bandwidth						
Color bar						**x**
Operating status	x	x	x		x	x
Accept						
RF-Signal	x	x		x	x	x

Bold marked Parameters (**x**) can be edited via acceptance command!

...setting Signals

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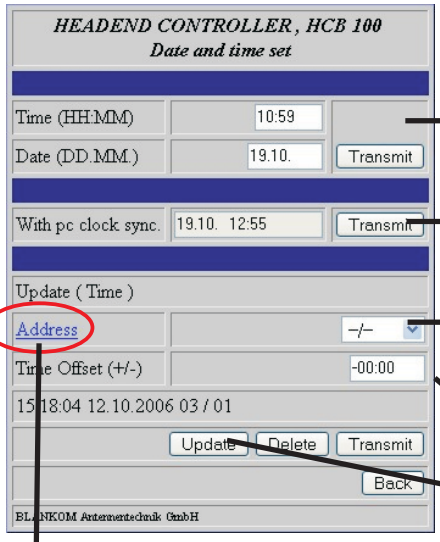
3.5.6 Adjustment of Date/Time

3 Options for Date & Time configuration via the Headend Controller HCB 100.

- The time can be configured manually, synchronised with the PC/Laptop-time or adopted from an digital converter



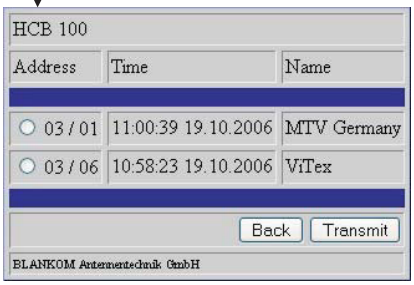
Manual correction of Date/Time
- Press “Transmit” for acceptance/storage

Synchronization of Date/Time with connected PC/Laptop
- Press “Transmit” to Confirm accept PC-Time ”

Select address of a module to adopt its time
(Can be done with all headend modules)
[-/- = automatic address selection]
- Press “Transmit” for acceptance

Offset time, for time correction of desired/selected address

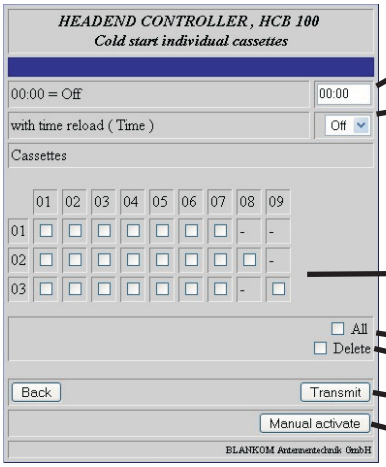
Updating Date/Time for displayed module



Overview of all modules which provide Date & Time.
The reference address can be selected directly in this window

NOTICE!
Display of the date for digital Transmodulators possible only from sofware-version V1.68 of the MPEG-Module.

3.5.7 Cold start of single modules



Entry of the sytstem cold start time (e.G. 03:00 hrs.)
(Cold start is deactivated when entering 00:00 hrs.)

“Time alignment”*
ON ... “Time aligment” will be done after restart of the module
OFF ... No “Time aligment” after restart of the module

Matrix for all available modules
- Selection of the module for restart

- Select “All” (all modules will be considered)
- “Delete” module-selection will be relocated and restart configurations
- “Transmit” for acceptance of cold start configurations
Manual restart of selected/modules

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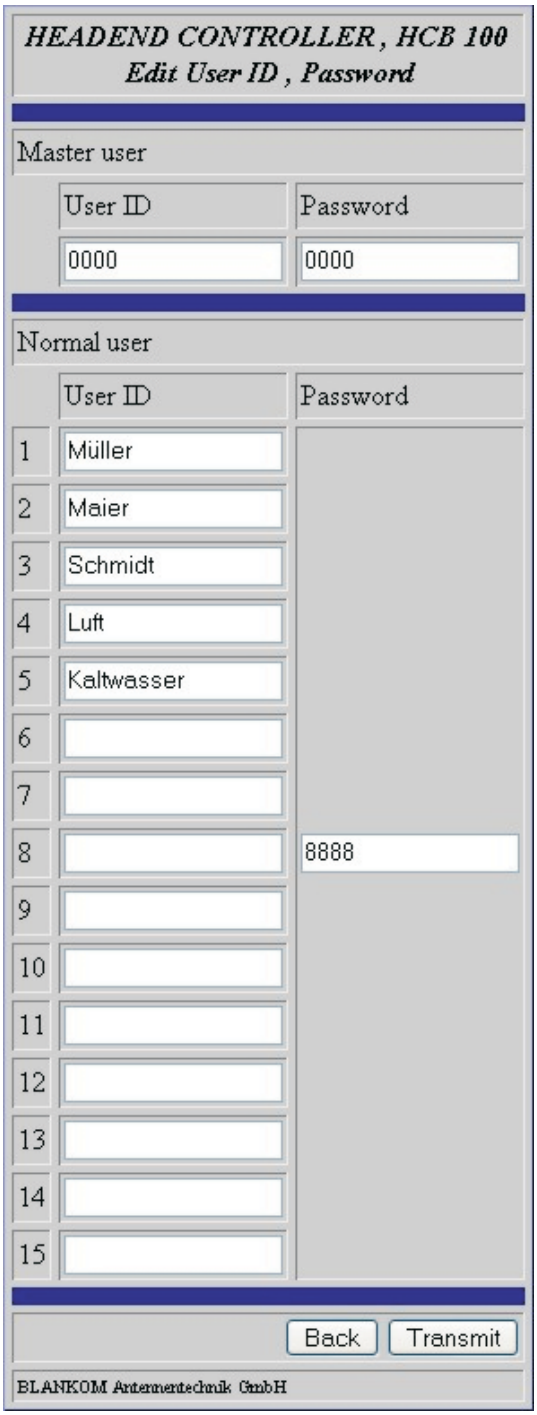
3.5.8 Change User ID, Password

Access rights for 1 Main-Administrator and for up to 15 Sub-adminsitrators can be edited!!!



Rights for Main-Administrator
- Full rights for configuration/management/changes for the headend system
- To provide and to change User Id´s and Passwords for the Sub-Administrators

Rights for Sub-Administrators
- The Sub-Adminsitrators only have the right to do any changes/configuration/management of the headend

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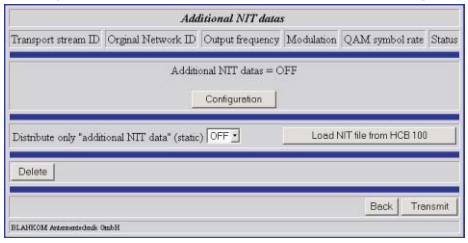
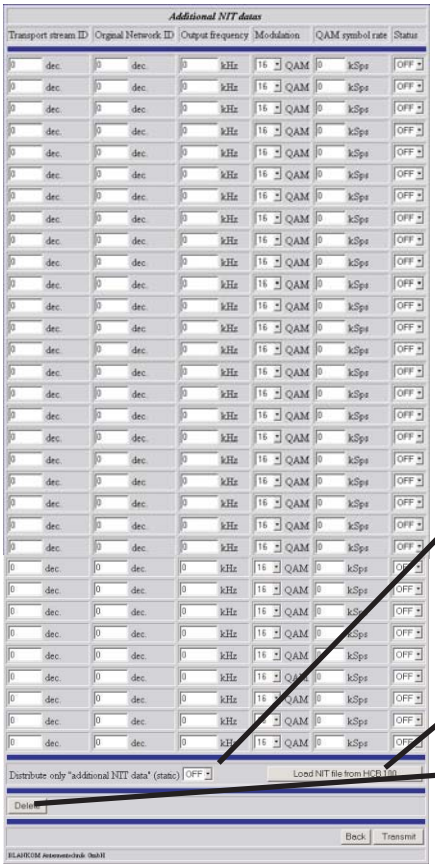
3.5.9 Additional NIT - Datas

It is possible to distribute additional NIT - datas of other BLANKOM systems (e.G Profi-800 series) or systems of other providers togehter with the NIT - datas of the B-LINE & C-LINE headend systems.



This functionality has to be activated with the "Configuration" of the HCB 100.
- A table for 32 manual entries is available then.



The values for output frequency, modulation and QAM - Symbol rate of the channels are known.
The Transport stream- ID and Original Network - ID can be determined with the QPSK / QAM Transmodulators STB 606 / 607 or STC 696 / 697 or with a respective measurement device.

"ONLY" additional NIT - data distribution (static)
"ON" ... Only entered datas will be written into the NIT - Table
"OFF" ... Only datas from connected QAM-Transmodulators and entered datas will be written into the NIT - Table

"Load NIT file from HCB 100"
- Datas from connected QAM-Transmodultors will be read out and then adopted into the table

"Delete"
- All entered datas will be deleted and the table backspaced into delivery status

Examples of a Transport stream - ID and an original Network - ID

Transponder	Downlink (MHz)	Symbol rate (Msps)	SAT-IF / L-Band (MHz)	Transport stream - ID Hexal	Transport stream - ID Decimal	Original-Network - ID Hexal	Original-Network - ID Decimal
65	11720	27,500	1120	0x0003	(3)	0x0085	(133)
67	11758	27,500	1158	0x0011	(17)	0x0085	(133)
69	11798	27,500	1198	0x0002	(2)	0x0085	(133)
71	11836	27,500	1236	0x044D	(1101)	0x0001	(1)
75	11914	27,500	1314	0x0006	(6)	0x0085	(133)
77	11954	27,500	1354	0x0437	(1079)	0x0001	(1)
81	12032	27,500	1432	0x0004	(4)	0x0085	(133)
83	12070	27,500	1470	0x0005	(5)	0x0085	(133)
85	12110	27,500	1510	0x0431	(1073)	0x0001	(1)

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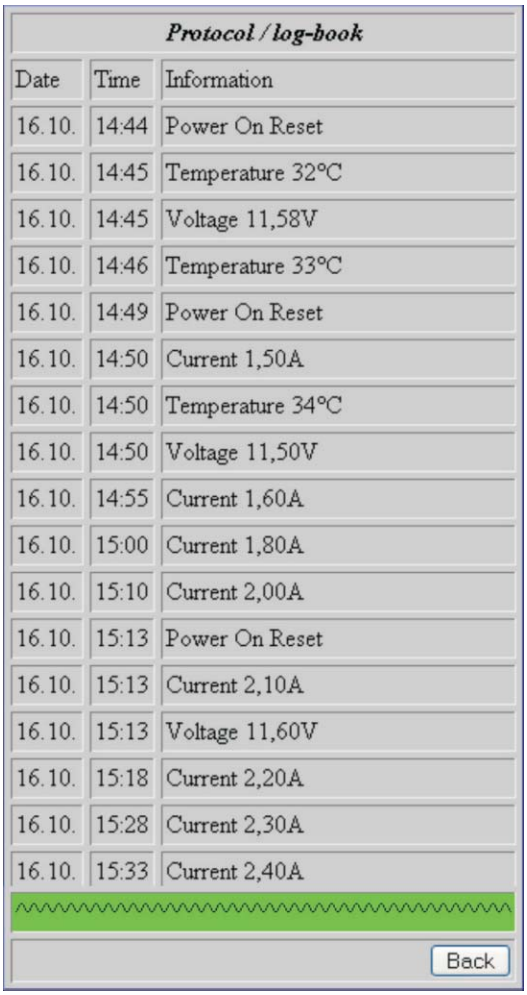
3.5.10 Protocol / Logbook

The HCB 100 contains of a Protocol/Logbook system

- Up to 127 events can be stored
- Every entry displays date, time and information of the respective events.
  (The latest/last input/entry is always displayed above the green line)



Protocol / log-book

Date	Time	Information
16.10.	14:44	Power On Reset
16.10.	14:45	Temperature 32°C
16.10.	14:45	Voltage 11,58V
16.10.	14:46	Temperature 33°C
16.10.	14:49	Power On Reset
16.10.	14:50	Current 1,50A
16.10.	14:50	Temperature 34°C
16.10.	14:50	Voltage 11,50V
16.10.	14:55	Current 1,60A
16.10.	15:00	Current 1,80A
16.10.	15:10	Current 2,00A
16.10.	15:13	Power On Reset
16.10.	15:13	Current 2,10A
16.10.	15:13	Voltage 11,60V
16.10.	15:18	Current 2,20A
16.10.	15:28	Current 2,30A
16.10.	15:33	Current 2,40A

Back

The Protocoll registers/stores different accesses and its related events to the headend system:

1. Logon and Logoff via the Browser (User ID / Password)
2. Changes of the maximum- and minimum values for temperature and voltage
3. Activation of the Timer
4. Start of NIT - distribution
5. Reset of the Headend controller HCB 100
6. Changing of adjustments/configurations (Writing protecton to the module will be registered)

ALL CHANGES WILL BE STORED AND DISPLAYED WITH DATE AND TIME INFORMATION ONLY IF THE CLOCK OF THE HCB 100 IS SYNCHRONIZED

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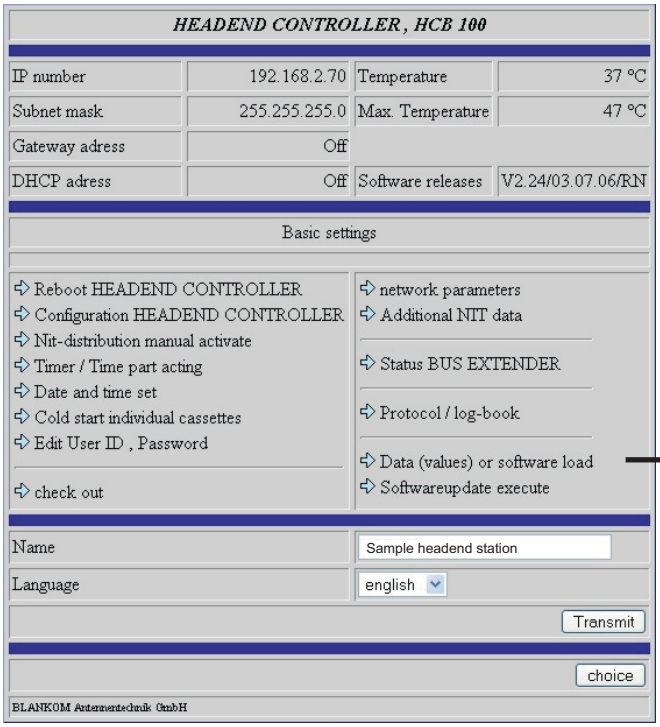
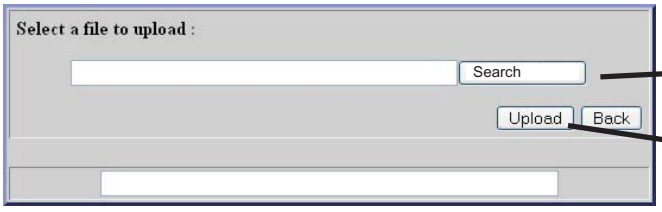
3.5.11 Update of the HCB 100 (internal software)

1. Connect PC/Laptop to the Headend Controller HCB 100 (directly connection or via network)
2. Select the configuration page for the “HEADEND CONTROLLER” at the selection menu



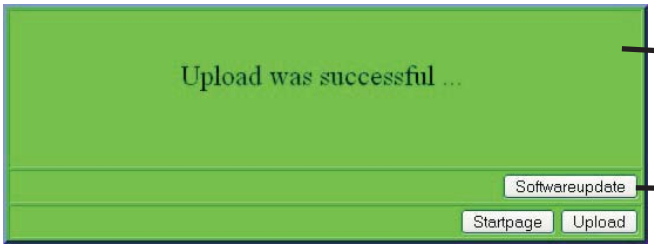
Load Datas (values) or software



Select Upload files*
HCB_100_Up_V3.xx.txt

Select “Upload” to start the update function

Upload is running!!!



Upload was successful!

Start software-update then!

* The upload/update file has to be stored as .txt file at the PC/Laptop.
NO zip - data/file can be stored with the HCB 100.

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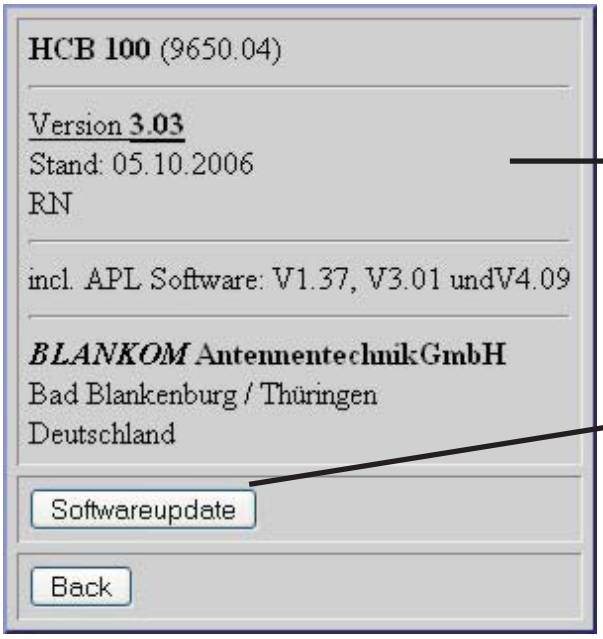
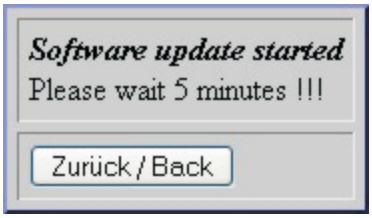


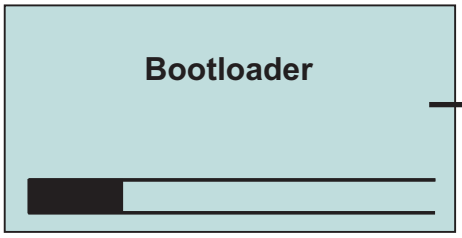
Display for all versions available with this update.
The connection circuit board (APL) versions will be actualized automatically also

Start software update

- Duration for HCB 100 update approx 2 Min. *)
- Disconnect a possible ethernet-connection before starting the update and during upd.
- Duration for the APL update approx. 15 sec./per module

*) - Firmware-Updates for the modules can much more longer (Advice HCB: Software update)



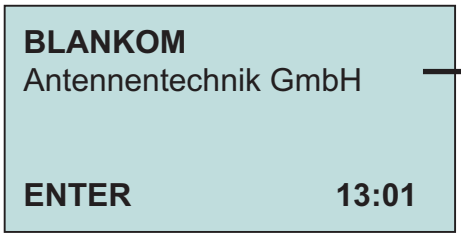


Feedback: Start Software update

- Updates runs automatically

!!! NO access to the HCB 100 during the update possible!!!

Updates runs automatically



Update is finished when ENTER and the TIME is displayed at the HCB 100

→ ***END of Update***

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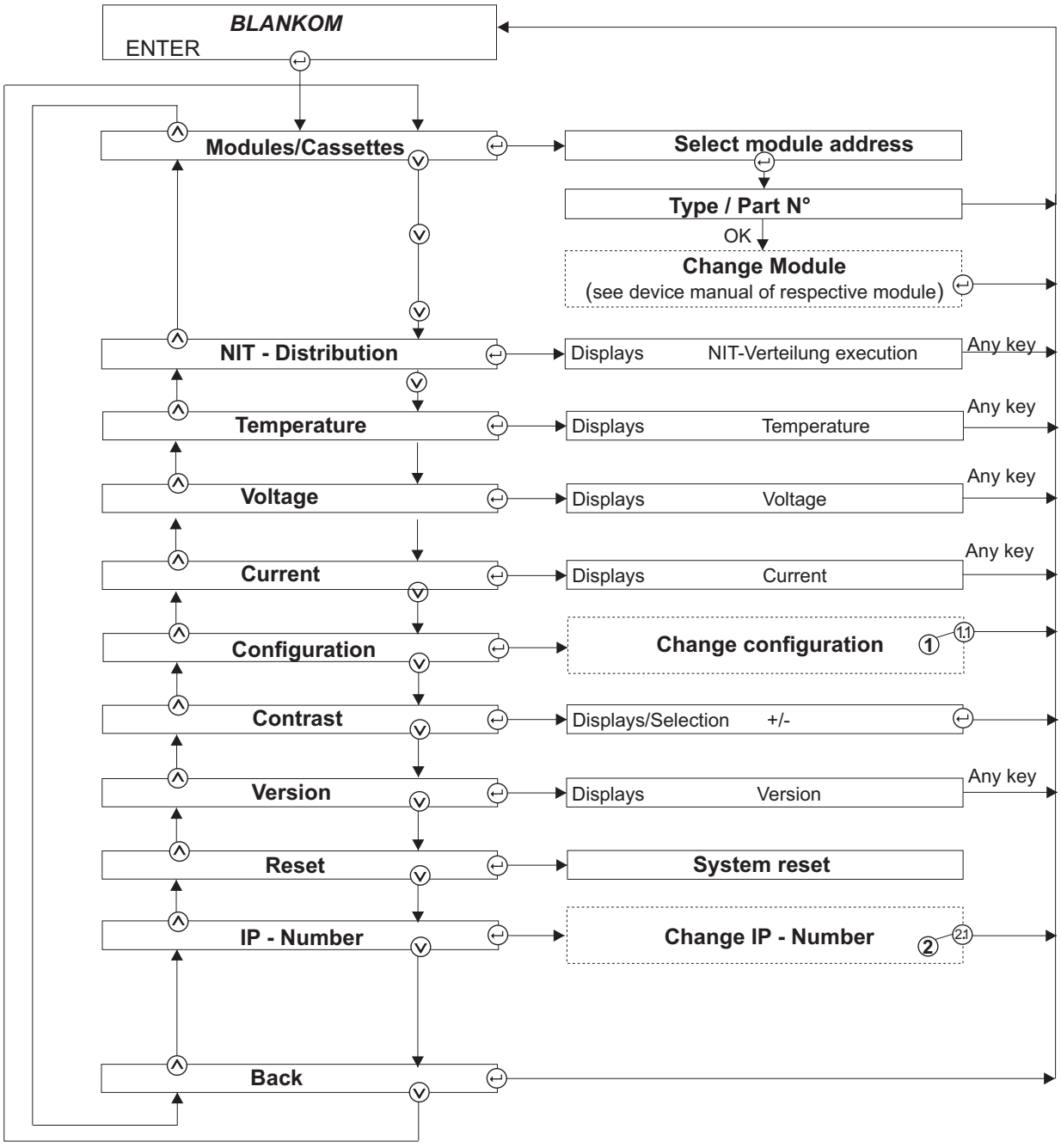
4. Flow-chart for manual operation of the HCB 100



↵ ENTER
^ Up
v Down

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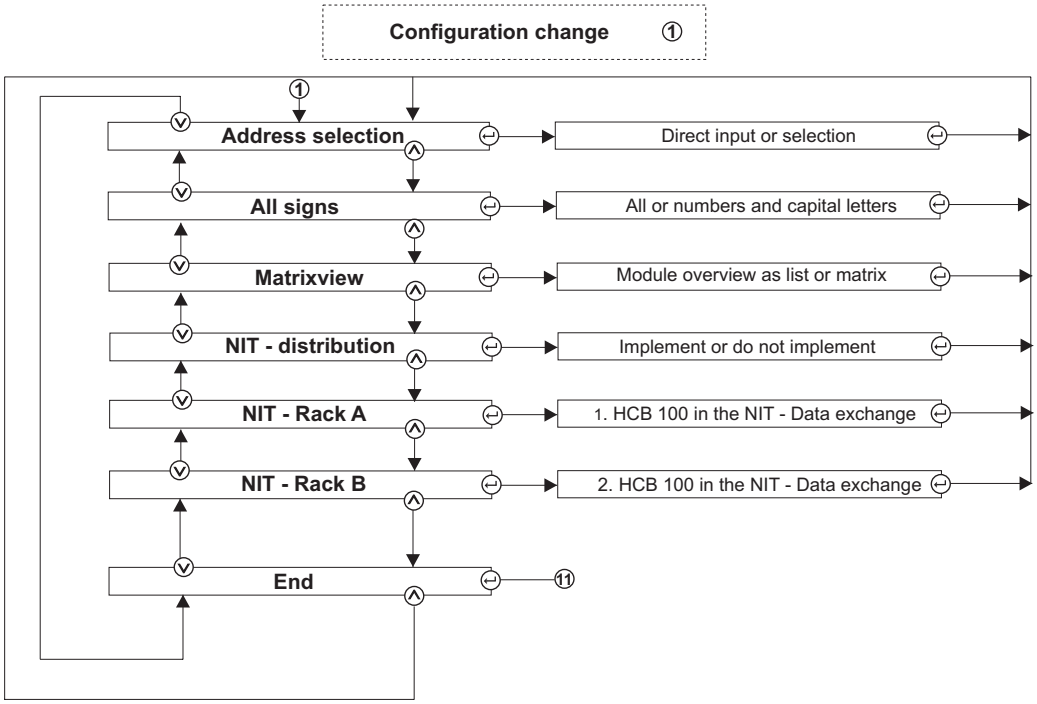
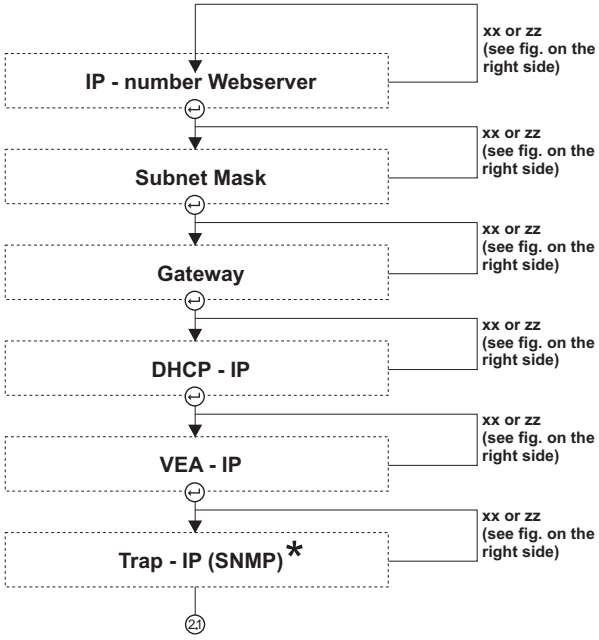
4.1 Configuration of the HCB 100

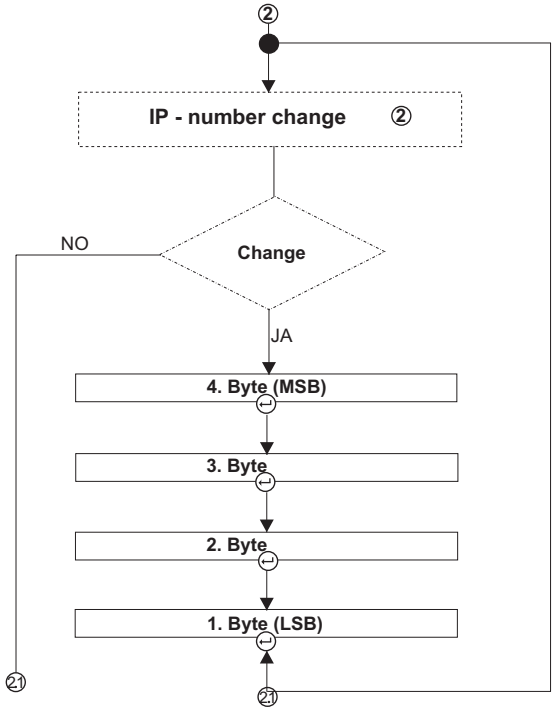

Configuration change ①
Address selection
Direct input or selection
All signs
All or numbers and capital letters
Matrixview
Module overview as list or matrix
NIT - distribution
Implement or do not implement
NIT - Rack A
1. HCB 100 in the NIT - Data exchange
NIT - Rack B
2. HCB 100 in the NIT - Data exchange
End
11

4.2 Adjustments for IP - Numbers



* Option

4.3 General routine for adjustment of the IP - Numbers



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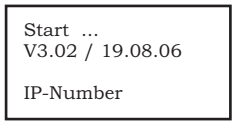
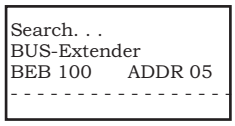
5. LCD Display at the Headend Controller HCB 100



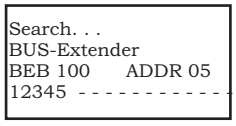
Start of the HCB 100
==> Current software version of HCB 100 is displayed

Power ON RESET occurs an additional running-time
for the self initialization of the modules

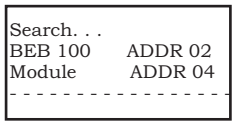
5.1 Initialization of the modules after a RESET



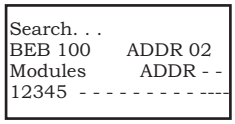
Search for BUS-Extenders BEB 100
==> Displays all found BEB 100



Search for BUS - Extenders BEB 100 is finished
==> Displays the found BEB 100 with respective addresses
(here 1, 2, 3, 4 und 5 = 5 BEB 100 are founded)



Search for modules of line 2
==> Displays all found modules



Search for modules of line 2 is finished
=> Displays the found BEB 100 with respective addresses

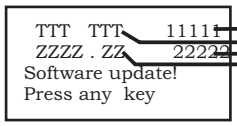
5.2 Standard Display

HCB 100 is in operation mode (works correctly)
==> Green LED is on.

HCB 100 is doing a data exchange between QSPK/QAM-Modules
==> Yellow Led is “blinking”

5.3 Display of Errors, if a module is not supported

HCB 100 tried to detect a module which is not supported.



11111	Index of the module
TTT TTT	recognized Type
22222	Index of theHCB 100 read out
ZZZZ.ZZ	drawing number

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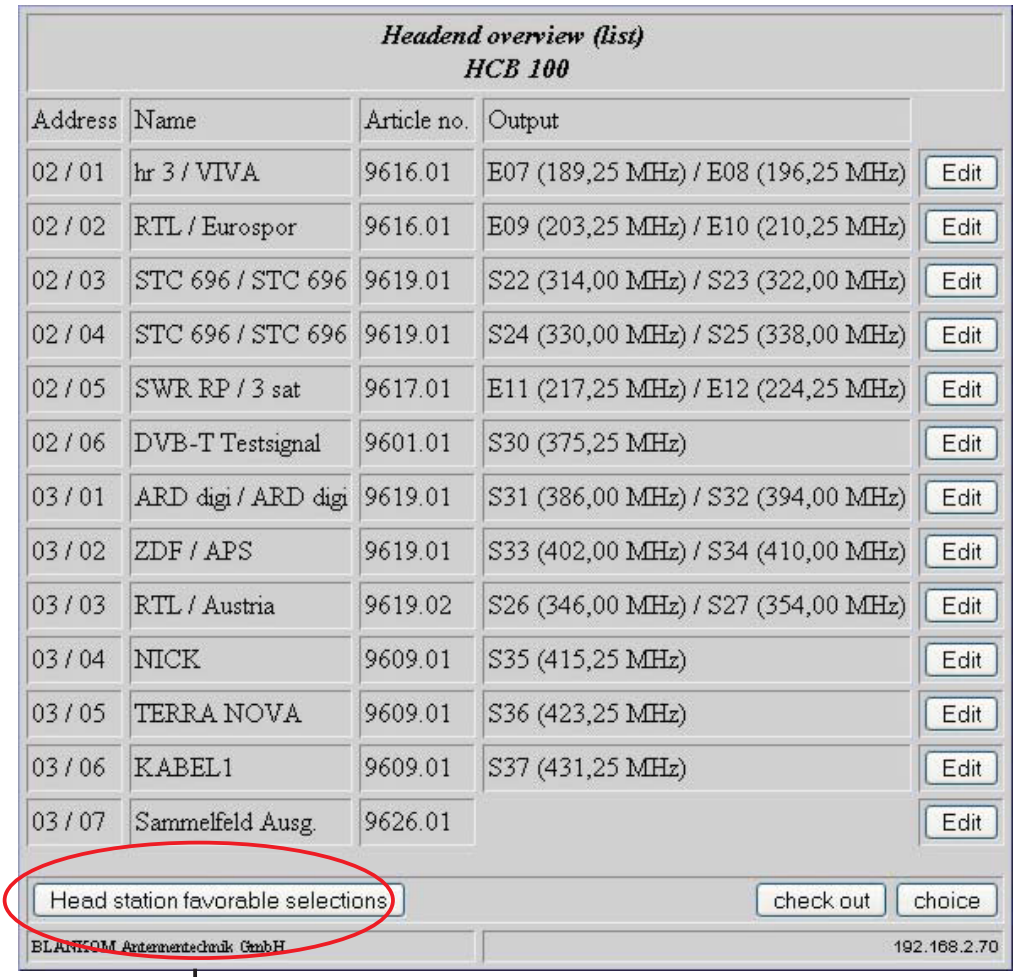
6. Change of hardware (remove, ad or change modules)

The internal memory of the HCB 100 assures a backup (Copy) of the headend configuration.
If a module will be changed/removed or a new one will be added then the HCB 100 has to reload this new hardware



Headend overview (list)
HCB 100

Address	Name	Article no.	Output	
02 / 01	hr 3 / VIVA	9616.01	E07 (189,25 MHz) / E08 (196,25 MHz)	Edit
02 / 02	RTL / Eurospor	9616.01	E09 (203,25 MHz) / E10 (210,25 MHz)	Edit
02 / 03	STC 696 / STC 696	9619.01	S22 (314,00 MHz) / S23 (322,00 MHz)	Edit
02 / 04	STC 696 / STC 696	9619.01	S24 (330,00 MHz) / S25 (338,00 MHz)	Edit
02 / 05	SWR RP / 3 sat	9617.01	E11 (217,25 MHz) / E12 (224,25 MHz)	Edit
02 / 06	DVB-T Testsignal	9601.01	S30 (375,25 MHz)	Edit
03 / 01	ARD digi / ARD digi	9619.01	S31 (386,00 MHz) / S32 (394,00 MHz)	Edit
03 / 02	ZDF / APS	9619.01	S33 (402,00 MHz) / S34 (410,00 MHz)	Edit
03 / 03	RTL / Austria	9619.02	S26 (346,00 MHz) / S27 (354,00 MHz)	Edit
03 / 04	NICK	9609.01	S35 (415,25 MHz)	Edit
03 / 05	TERRA NOVA	9609.01	S36 (423,25 MHz)	Edit
03 / 06	KABEL1	9609.01	S37 (431,25 MHz)	Edit
03 / 07	Sammelfeld Ausg.	9626.01		Edit

Head station favorable selections | check out | choice

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Press “Headend read out”
==> New/changed configuraiton will be scanned (new scan)

NOTICE
No communication/access to the HCB 100 possible
The selection menu is available afterr successful scan is finished

INFORMATION
A Reset/Restart can be done within the menu of the Headend Controller **or** at the HCB 100 directly.
==> The headend will also be scanned then

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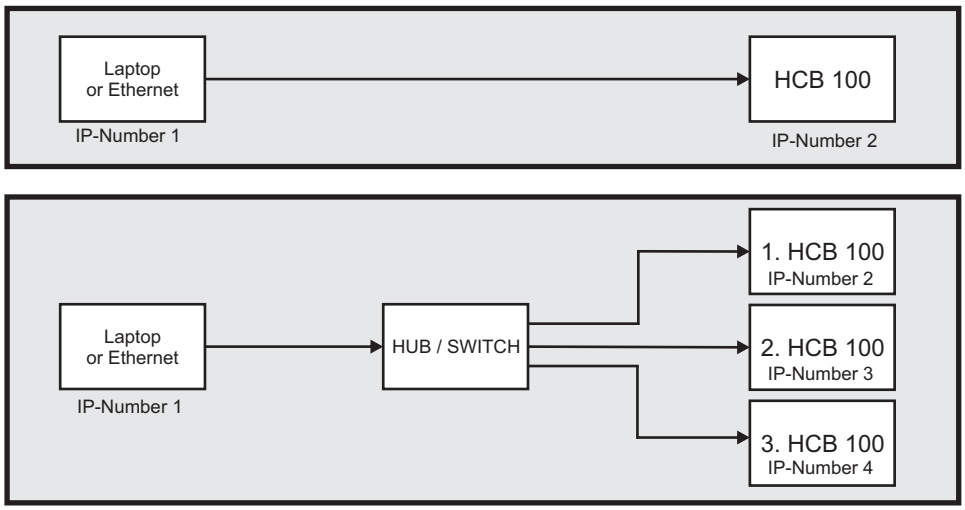
7. Additional network components

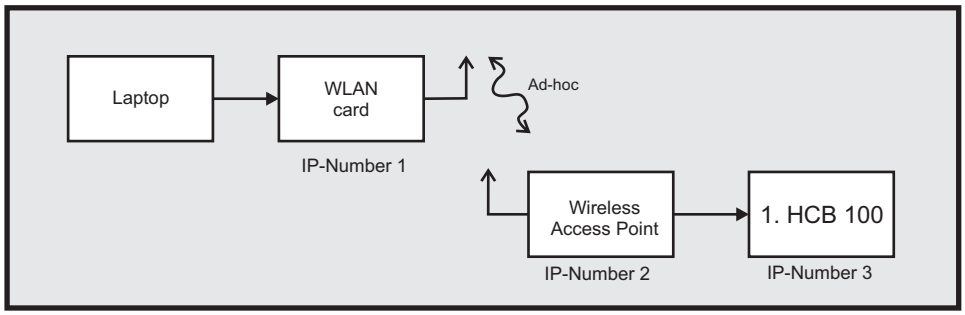
Interconnection of several Headend Controllers HCB 100 and combination with different activations:

- At site operation/management/adjustment with PC/Laptop (Direct connection between PC/Laptop and HCB 100)
- Remote control/management via Ethernet
- Remote control via Router (ISDN, Modem, WLAN)

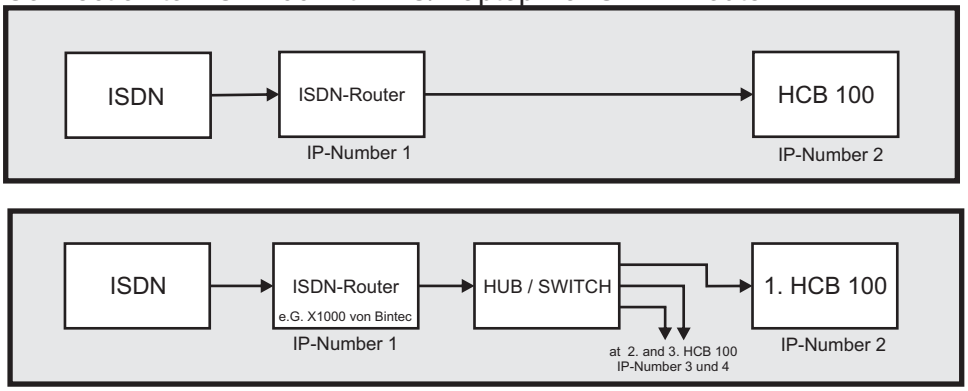
Connection to one or more HCB 100 directly with PC/Laptop



Connection to HCB 100 with PC/ Laptop via WLAN



Connection to HCB 100 with PC/ Laptop via ISDN - Router



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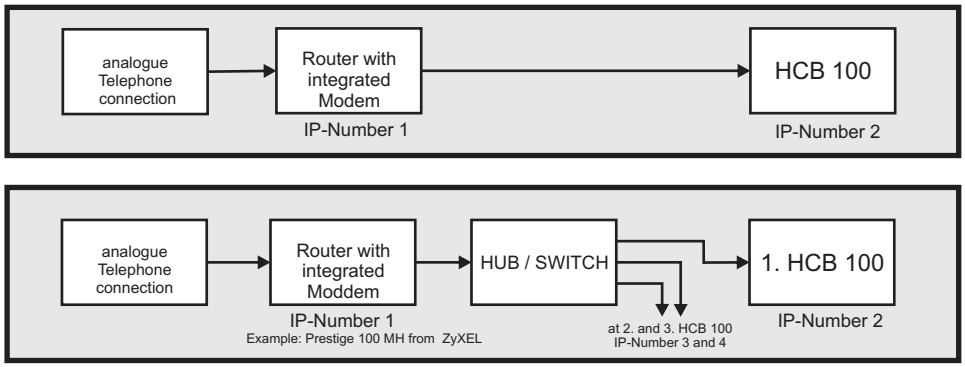
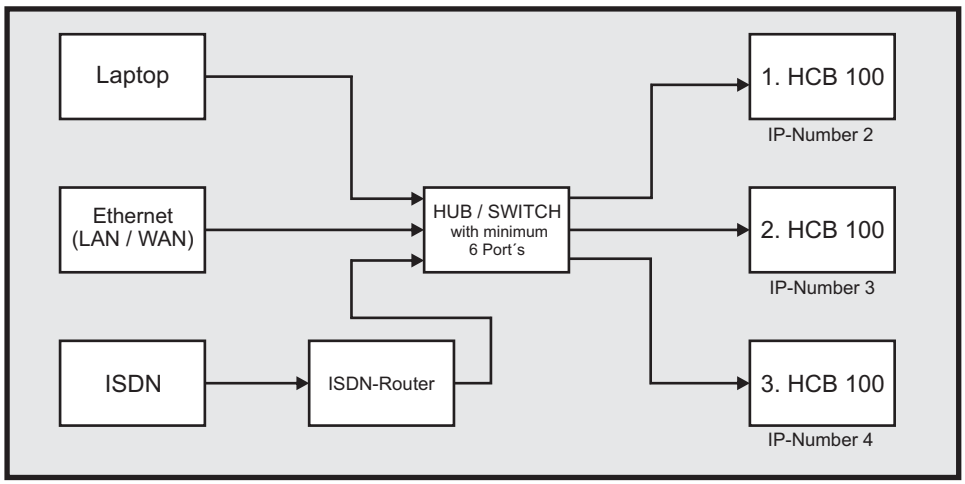
...Setting Signals

Connection to HCB 100 via an analogue - Router



Network of several HCB 100
- At site Control/Management/Adjustments
- REMOTE Control/Management/Adjustments via network connection
- REMOTE Control/Management/Adjustments via Router



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